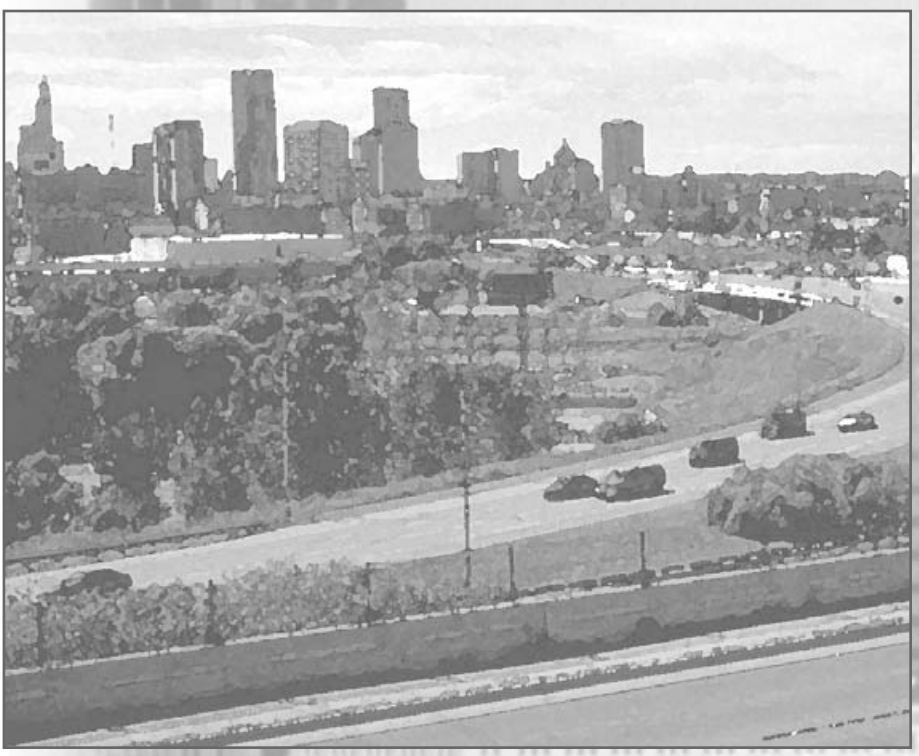
TRANSPORTATION PLAN

THE SAINT PAUL COMPREHENSIVE PLAN



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CITY OF SAINT PAUL
DEPARTMENT OF PLANNING AND
ECONOMIC DEVELOPMENT

Contents

1.0 Plan Overview and Priorities

A new century approaches. What kind of future can we in the city of Saint Paul expect? How will we sustain our economic viability in a changing region? How will we preserve the traditional neighborhoods of which we are so proud? How will we retrieve those parts of the community dangerously close to irreparable deterioration? How will we break down the walls of social and economic isolation that surround too many of us? How will we foster the sense of community and civic engagement essential to a healthy city future?

To a certain extent, these are questions of *connections* — how they are made and how they are maintained. They are questions for which *transportation* becomes part of the answer. Only if we understand the impact — good and bad — that transportation decisions have on these crucial concerns, can we make wise choices.

The City of Saint Paul *Transportation Policy Plan* has been developed to provide guidance for future City decisions about streets and traffic, parking, transit, bicycling, pedestrian ways, and, to a lesser extent, land use and development. The plan presents a three-part strategic vision for transportation:

Strategy 1, Travel and System Management, is to ensure that Saint Paul's transportation system works *technically,* with better balance between travel demand and street capacity, so that Saint Paul citizens may enjoy reasonable mobility, access and safety. Strategy 1 recommends:

- **Travel Demand Management:** Less growth in demand on the street system, through better transit service and a variety of supports for less travel and more use of alternatives to single-occupancy automobiles.

- **Street Capacity Management:** Best use of existing transportation infrastructure through traffic management, judicious system improvements in support of community objectives, and care to alleviate the impacts of a busy system on residents and pedestrians.

Strategy 2, Neighborhood Quality and Economic Development, is to ensure that Saint Paul's transportation system works for the community, that it is integral, not intrusive, and that it protects and enhances neighborhoods and supports economic development. Strategy 2 recommends:

- **Neighborhood Protection:** Easing of traffic intrusion, congestion, misbehavior, and noise in neighborhoods; a neighborhood-based traffic management process.

- **Neighborhood Enhancement:** Design and management of transportation infrastructure and services to strengthen neighborhood integrity and character.

- **Economic Development:** Transportation investments in support of business development and job creation and retention in Saint Paul.

- **Downtown Revitalization and Riverfront Development:** Focus on the downtown, including the riverfront, as a complex and critical area, with special street, traffic, parking, transit and pedestrian needs and opportunities.

Strategy 3, Travel Mode Choice, is to ensure that Saint Paul's transportation system works for individuals, so that different modes of travel comfortably co-exist and individual modes of choice are well-accommodated. Strategy 3 recommends:

- **Transit Improvement:** Recapture of transit ridership, with service to transit-dependent as a first priority, through promotion of funding and service delivery improvements.

- **Bicycle System Development:** A comprehensive system of routes and facilities for biking.

- **Pedestrian Safety and Comfort:** Improvement of the pedestrian experience through streetscape design, and sidewalk installation, repair and maintenance.

- **Accessibility:** Removing barriers to mobility experienced by persons with disabilities.

- **Safe, Sensible Automobile Use:** Keeping the most prevalent travel choice — by automobile — a safe one and encouraging higher vehicle occupancies.

The physical aspects of the City's transportation vision are presented in a Physical Plan comprising a street plan, truck route map, riverfront development concept map, illustrations of traffic management techniques, proposed transit corridor map, and bikeway plan (pp. 37-49).

Priorities

Each of the policies proposed in this Plan is intended to serve a strategic focus. Certain policies stand out as the highlights, however, because they can do the most to achieve Plan objectives. Singling out these policies in no way suggests that the remaining policies should not be fully implemented by the City, but rather gives guidance for assignment of resources to Plan implementation.

The highest transportation priorities for Saint Paul are listed below. Relevant policies are referenced by number in parentheses.

- **Significantly Improve Transit.** Transit service in Saint Paul has deteriorated, does not compete well with the automobile as a travel option for many who have a choice, and often fails to adequately serve the critical travel needs of those who depend upon it. The system demands serious restructuring and resource allocation if it is to fulfill its potential. Making transit an attractive, viable travel option will address growing demand for travel, extend the capacity of our existing street system, conserve fossil fuels, support urban development patterns, and improve access to employment and services for those who most need it. Furthermore, a good transit system is absolutely essential for Saint Paul to realize its competitive advantage as a quality place to live and do business. The Plan calls for:
  - better transit funding (policy 73)
  - a redesign of the transit system, with excellent service in transit corridors, neighborhood transit centers, and neighborhood circulators (policy 74).

- **Enhance the Neighborhood Environment.** Physical improvement of the street and pedestrian environment in Saint Paul neighborhoods, including its downtown, results in greater investment (financial and emotional) in the community by citizens, betters public safety, and supports the business community. The Plan calls for:

- completion of the residential street repaving program (policy 41)
- streetscape design guidelines (policy 38)
- additional sidewalks (policy 88)
- general improvement of the pedestrian environment (policies 58 & 94).

Traffic intrusion into neighborhoods and threat to pedestrian safety are serious concerns for many Saint Paul residents. The Plan calls for:

- traffic "calming," or slowing, to discourage through-traffic and enhance the sense of safety for the pedestrian (policies 26 & 27).

◆ **Influence Regional Development Patterns.** Transportation in Saint Paul has become increasingly regional in nature in recent years as the average distance between home and work has grown. The nature of new development in the region — low density, with uses segregated — has furthered the reliance on the automobile. These regional land use patterns have been supported by transportation decisions made at the state and regional level. For the City to effectively influence the future of its own transportation system, it must work to effect change regionally. The Plan calls for:

- regional development and transportation policies that support alternative modes, reduce trips, and discourage sprawl (policies 6 & 50).
- participation in regional road and transit planning to improve access in support of economic development (policies 49 & 51).

◆ **Rationally Manage Traffic on City Streets.** The City has made a huge investment over the years to make its collector and arterial system work as well as it can to move traffic while protecting neighborhoods from unnecessary intrusion. So it may continue to do so, the Plan calls for:

- use of traffic controls, design practices and land use policies to protect the internal integrity of the system (policy 11),
- protection of the system from further regionalization (policy 16).

- **Add to the System Where Critical.** While the system is largely built, some road capacity improvements are advised in order to support economic development and/or to avoid or correct serious congestion. Major projects include:
  - Phalen Boulevard (policy 47)
  - infrastructure in support of riverfront development (policy 69).

  The Plan takes no position on Ayd Mill Road, other than to support implementation of whatever decision results from the current study process (policy 20).

- **Carefully Manage Neighborhood and Downtown Parking.** Dealing with automobile parking needs, without undermining the objective of encouraging alternatives to automobile use, is a challenge. The Plan calls for:
  - continued land use regulation to address parking issues (policy 36)
  - continued use of permit parking (policy 36)
  - management and marketing of existing downtown parking (policy 61)
  - construction of new downtown parking to meet demonstrated demand in the west core (policy 61).

2.0 Introduction

If you don't know where you are going, you will probably end up somewhere else.

- Peter Drucker

Saint Paul is going somewhere as a city. Where it ends up depends, in part, upon the public choices that are made about the roads, transit services, bikeways, and pedestrian ways that make up the transportation system, and how local and regional development determines and is served by that system.

At this point in the journey, Saint Paul's competitive advantage in the Twin Cities metropolitan region is found in the combination of its neighborhood quality, natural features, institutions and vast potential for economic development due to the existing critical mass of industry, opportunity to recycle land, and large labor force. If this advantage is maintained and built upon (in part through the design and operation of the transportation system), it can sustain the city into the future.

But this advantage is being undermined by the disinvestment in the transit system and continued pressures for low-density residential and business growth in the suburbs. The city is also faced with aging infrastructure, limited resources, and growing and competing needs.

With these challenges in mind, the City has developed this *Transportation Policy Plan* to guide its choices as it enters the next century. The Plan will be used by City officials to decide where to spend public monies, how to best use City personnel, and how to promote Saint Paul's interests in regional transportation decisions.

Together, with other elements of the City's comprehensive plan, the Plan will guide us to make wise public choices that will lead Saint Paul to where we want it to be for ourselves and our children.

3.0 The Setting

Saint Paul is a city with over 900 miles of streets used by drivers, transit riders, cyclists, and pedestrians. It is an old city where most of the major streets have been in place for over fifty years. It is a city mainly developed for the pedestrian and streetcar lifestyle, now coping with the present-day reality of auto dependence, highly-mobile lifestyles, regional growth, socioeconomic division and isolation, and telecommunication revolution.

It is a city where taxpayers feel pressured and for which federal and state resources have diminished. It is a city where making public investment decisions wisely has never been more important.

Goals

A safe, efficient and enjoyable journey begins with a destination. There are, of course, countless individual hopes and expectations for the city. However, public forums through time, and specific to this transportation planning process, have revealed some sense of community vision held by Saint Paul's citizens. Within this broad vision are goals of particular importance for this Transportation Policy Plan.

1. Saint Paul will have safe, enjoyable neighborhoods. Our strength is in our neighborhoods. The Plan sees a city where neighborhood integrity is respected and where people feel secure and satisfied where they live, work, shop, and play.

2. Saint Paul citizens will enjoy reasonable mobility. Our citizens not only are accustomed to the pace and ease of travel, they often depend upon it. The Plan recognizes the desire and need our people have to maintain good mobility in support of their business and personal lives.

3. There will be good accessibility to support economic development of the city. Saint Paul must have a strong commercial/industrial sector to provide jobs, goods, and services for residents and to ensure a healthy, diversified tax base in support of schools and community services. The Plan envisions a city with good access between businesses and their customers, materials and workers.

4. The city's system will fit well within the regional system. Saint Paul is an old city in a large, expanding and complex metropolitan region. The Plan sees a city that has a strong individual identity, but that contributes to, and benefits from, the viability of the region as a whole.

5. Saint Paul citizens will have choices. People get around in many ways — on foot, by bicycle, using wheelchairs, on the bus, in automobiles. The Plan imagines a city where these different modes comfortably co-exist and where one's mode of choice is well-accommodated.

Premises for Planning

The point of departure for this Plan was a thorough study of traffic volumes and patterns, street capacity, function and operations, neighborhood safety and enjoyment, business and residential access needs, transit issues, demand for and barriers to bicycling, and pedestrian concerns. We also took a look around the bend to forecast future conditions.

The key points of this study effort are presented here.

1. A certain incompatibility between the automobile and city life is a given. Saint Paul is a mature city with a street system built largely for a different age. The compactness and mix of land uses that define our urban experience also serve to intensify the effect of automobile noise, emissions, bulk, and potential danger, at the same time as the city's central location makes it a crossroads for regional traffic.

We experience this conflict in the pervasive noise related to traffic, especially trucks, throughout the city, in the persistence of parking congestion in many neighborhoods and parking inadequacy in portions of the downtown, and in the need to be vigilant about local air quality, lest the carbon monoxide standard exceedances of the 1980s return. In a more qualitative way, we experience the negative consequences of automobile-oriented infrastructure and lifestyle on neighborhood social interaction.

The growth and regionalization of traffic on our built system has resulted in streets operating at a higher function than originally anticipated and at higher volumes than that for which they were originally designed.

2. Automobile traffic volumes on Saint Paul streets have increased substantially faster than the rate of local or regional population growth and now exceed the street capacity to adequately accommodate them in several parts of the system. Saint Paul streets have seen a significant increase in vehicular traffic over the past several decades. In the 1980s, daily traffic volumes increased an average of three percent a year.

Traffic volumes have increased faster than regional population for several reasons. There are more households with more than one wage-earner, more households own more cars, the number of trips people take per day has increased, vehicle occupancy is low (and, in fact, has declined in recent years), fewer people take the bus, and development patterns and public policy encourage automobile use.

Where volumes exceed capacity, motorists are more likely to seek other routes through neighborhoods not suited for additional traffic, the likelihood of accidents is higher, access is impeded, and the potential for negative local environmental impact exacerbated.

3. Traffic growth will continue through this decade, though at a slower rate. The automobile is expected to remain the dominant travel mode in the region and the city in the next several years, if only due to the sheer magnitude of existing investment in automobiles, auto-oriented infrastructure, and auto-dependent development patterns.

We project that traffic in Saint Paul will increase at about half the rate it did in the past decade. There is a logical limit to some of the trends that drove the traffic increases of the recent past (the growth in workers and vehicles per household and the decline in vehicle occupancies), and suburbanization of jobs is expected to continue to shift some travel away from the central cities.

However, the region, including its eastern part, will continue to grow, and Saint Paul will continue to be a destination and a through-way for many. As a result, traffic levels will increase, albeit at a slower pace than the past.

Expected traffic volumes will result in peak hour congestion at a variety of locations throughout the city.

4. **While vehicular travel has become generally safer in recent years, driver behavior has deteriorated.** Even as traffic volumes have increased in Saint Paul, the number of traffic accidents has declined. Despite this quantifiable improvement in traffic safety, many city residents perceive more danger in their neighborhoods due to increased volumes and, in particular, to the increased incidence of speeding and other traffic violations in neighborhoods.

5. **There are limits to capital solutions.** Past transportation plans have usually addressed traffic congestion and access problems with capital solutions — increasing the system's physical capacity. This Plan recognizes that travel demands can no longer be met by adding street capacity alone. The financial and political costs are too high, and the potential for community disruption, particularly in a built city like Saint Paul, is too great.

While physical improvements are still important, especially where access and congestion-relief benefits are significant and disruption is limited, alternative measures will be needed to adequately deal with travel demand.

6. **Transit, a travel option compatible with urban development forms, has suffered significant disinvestment in the last several years.** It does not fulfill its potential as a travel choice for those who have an economic and physical choice; mobility and accessibility for persons who depend upon transit is getting worse. Bus ridership has dropped significantly on Saint Paul-oriented bus routes since 1980. Current bus service best serves work trips that stay in Saint Paul, but is not well-matched to the desire for travel between some neighborhoods or to and from adjacent communities.

People are discouraged from taking the bus by the relative infrequency and slowness of service, difficult schedules and confusion about routes, fear for personal safety, and the desire to make stops on the way home from work.

Those who depend upon transit for access to employment and services are the ones who have been most hurt by disinvestment in transit, both in the region generally and in the core service area particularly, and by reductions in off-peak service.

7. Much more can be done to serve bicyclists and pedestrians. The availability of bike lanes and parking has a greater influence on how popular biking is for transportation purposes than do other considerations such as the weather. There are currently few exclusive on-street bike lanes or secure, element-protected parking options for bicycles in Saint Paul.

About 150 to 200 miles of street frontage in Saint Paul do not have sidewalks. This is a particular concern on routes to schools, parks and playgrounds, and transit stops, and where it affects children and persons with disabilities. Many property owners do not want sidewalks for reasons of cost, maintenance responsibility, or aesthetics. Where sidewalks do exist, poor snow and ice removal is a persistent problem. Even where safe pedestrian ways are provided, the physical environment for walking is often uninviting.

8. Regional transportation patterns, policies and investment have profound impact on Saint Paul's system. Saint Paul will be directly affected by where and how regional highway and transit investments are made, as well as by regional land use decisions. In addition to these broad systemic influences of regional policy on Saint Paul is the explicit requirement that the City's plans conform with regional plans. That currently means that, in order for this Plan to conform to the metropolitan transportation plan, it should provide for a minor arterial system that will keep short trips off the metropolitan highway system, provide for queuing of vehicles at meters and bypass ramps, and plan for alternatives to private auto use.

4.0 *Strategy 1.* Travel and System Management

A System that works technically. *The City of Saint Paul will work to better balance travel demand and street capacity in order to provide reasonable mobility, access and safety for its citizens.*

Objective: Travel Demand Management

Encourage people to fulfill life's needs and wants with fewer and shorter trips and to use alternatives to single-occupant automobiles for travel. Stress cost-effectiveness in this effort, targeting actions to accomplish the most in terms of congestion relief and provision of choice to Saint Paul residents and workers.

This approach is known as "travel demand management" (TDM). TDM measures include transit, carpooling, bicycling, walking, telecommuting, and flexible work hours. The City should promote these measures at both the local and regional level.

TDM should be pursued because:

- it is less costly than accommodating more traffic through capital improvements,
- it has less impact on the environment,
- it supports Saint Paul's land use and economic development objectives,
- it supports the goals adopted by the City for the Urban Carbon Dioxide Reduction Program, and
- it contributes to regional transportation goals.

TDM must be applied strategically because:

- regardless of reasonable efforts to the contrary, strong preference for auto travel will continue,

- the most important influences on travel behavior (fuel prices, transportation funding, lifestyle choices) are beyond City control,
- cities with aggressive TDM programs created and sustained them in response to serious traffic congestion and air quality problems; Saint Paul's congestion is limited to relatively few locations and times of day, and
- lacking these critical problems, it is very difficult to sustain community support for present hardship (short-term traffic congestion, higher taxes on fuel, higher parking prices, mandates on local business) in hopes of long-run reductions in single-occupancy travel.

Policies

1. The City should work with regional transit agencies to secure transit service, especially a redesigned and adequately funded bus service, that better serves the needs of citizens in all parts of the city.

2. The City supports expansion of the Metro Transit Rideshare carpool/vanpool rider matching and preferential parking program and supports Metro Transit's Guaranteed Ride Home program for transit riders.

3. The City should work with other agencies to invest in infrastructure and system management that support transit, carpooling, biking, and walking.

4. The City should guide land use development of the city in ways that reduce trips and promote use of alternative modes of travel.

5. The City should ensure that its land use controls and other regulations do not unreasonably interfere with telecommuting.

6. The City should strongly promote regional development and transportation investments that support alternative modes and reduce trips, in particular, a better regional jobs/housing balance, and control of sprawl through restricted growth in transportation capacities.

7. The City should work with other public agencies and the private sector to market transit, carpooling, biking and walking, as well as flexible work hours and telecommuting.

8. The City should promote voluntary provision of TDM incentives by private employers.

9. The City should lead by example, by promoting transit, carpooling, biking and walking, and flextime and telecommuting for its own employees.

10. The City should monitor the development of new technologies that provide TDM opportunities.

Objective: Street Capacity Management

Design and operate the street system to channel through-traffic to parts of the system best suited for it, by maintaining and reinforcing a hierarchical street system of arterials, collectors and local streets. Add capacity where critical. Alleviate threats to resident and pedestrian safety, health, and accessibility on busy streets.

The system should continue to be managed using a hierarchy because:
- it is a rational way to deal with continued regional traffic pressure on Saint Paul's limited system,
- it acknowledges that through-traffic belongs on arterials and that local traffic belongs on local streets,
- it provides a basis for planning street design and operations, and
- it links land use and transportation planning.

Capacity improvements should continue to be made, but judiciously, because:
- resources are limited,
- critical congestion/safety problems cannot always be addressed with operational solutions, and
- system improvements can support other community objectives, particularly, economic development.

Positive efforts to maintain a reasonable quality of life along streets which carry through-traffic should be made because:
- street function and land use are sometimes a poor match in Saint Paul,
- it is important to acknowledge that the public decision to manage traffic in a hierarchical fashion protects parts of some neighborhoods at the expense of others, and
- the health and welfare of all residents is valued, regardless of where in the city they live.

Policies

11. The City should use traffic controls, enforcement, design practices, and land use policies to maintain the current function of streets, especially relative to one another, as designated and defined in the functional classification map (p. 33), specifically ensuring use of **arterials** (principal, minor A and minor B) for longest trips, **collectors** for intermediate and local trips, and **local** streets for local access.

12. The City should ensure that management of traffic, in accordance with the functional classification of streets, is done in ways that discourage increased volumes and speeds, and protect pedestrians and the neighborhood environment.

13. The City should assemble, for internal agreement and external communication, the set of traffic engineering and urban design principles that guide the design and use of the street right-of-way as determined by street classification, right-of-way availability, traffic volumes, safety standards, and land use.

14. The City will follow the new urban State Aid design standards for appropriate parts of the system which will result in most streets reconstructed to be narrowed to more appropriately accommodate pedestrians and help calm our urban traffic.

15. The City will continue to work with the State to secure State Aid rule changes to provide more flexible standards for streets with less than 3,000 average daily traffic, so that the street design may better meet the pedestrian and neighborhood needs of the urban environment.

16. The City should emphasize traffic system management (TSM) and TDM policies, particularly at the regional level, to protect the functional classification of streets in Saint Paul against further upgrade overall.

17. The City should work with the State to minimize the negative effect on Saint Paul streets of freeway ramp metering. This should be done through the use of Intelligent Transportation Infrastructure (ITI) on freeways and existing frontage roads.

18. The City should compare the trip generation potential of proposed land use changes with the ability of area streets to handle those trips and determine whether addition of street capacity or demand management techniques is the appropriate approach when existing capacity is insufficient.

19. The City should work with State and Federal agencies to implement capital improvements to avoid or correct serious congestion, where community disruption is not a major factor, and where operational capacity improvements cannot adequately address the needs.

20. The City should complete environmental assessment of alternatives for the future of Ayd Mill Road and implement the resulting recommendations.

21. The City should work with the Minnesota Department of Transportation (MnDOT) and other agencies to maintain and expand the use of incident management systems to deal with the short-term traffic congestion that results from accidents or other single event disruptions to normal traffic flow.

22. The City should continue to explore and implement useful TSM and TDM techniques in congested parts of the system, where capacity improvement is not desirable, specifically, the northwest quadrant of the city.

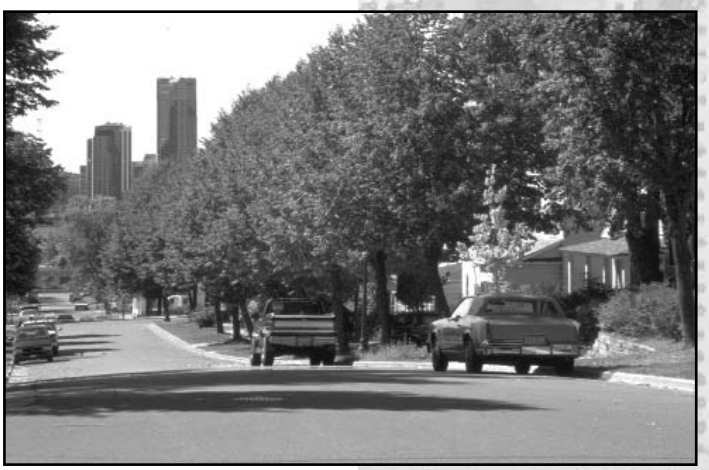
23. The City should design streetscape and operations in ways that alleviate the negative impact of major streets on their surroundings, protecting pedestrian safety as the highest priority.

24. The City should continue to work closely with Ramsey County to ensure compatibility with county standards, particularly as it relates to roads over which the county will have eventual jurisdiction.

25. The City should require installation of conduit for fiber-optic and other types of communications when streets are open for reconstruction or utility work.

5.0 *Strategy 2.* Neighborhood Quality and Economic Development

A System that Works for the Community. *The City of Saint Paul will work to protect and enhance neighborhoods and support economic development by designing and operating its transportation system in ways that are integral rather than intrusive to the community.*



Objective: Neighborhood Protection

Improve the behavior and mitigate the unpleasant consequences of local traffic in neighborhoods, as well as keep through-traffic off of local neighborhood streets. Make neighborhood traffic control a priority, with an understandable and accessible process for achieving it.

This is important because:

- traffic levels affect the sense of belonging to one's neighborhood,
- congestion is causing through-traffic to divert off of arterials into neighborhoods,
- there is more traffic-related danger being perceived in neighborhoods than in the past,
- there were occasional air quality standard exceedances in Saint Paul in the past,
- there are frequent exceedances of noise standards in some locations in Saint Paul,
- some neighborhoods are experiencing serious parking congestion, and
- involvement in public decisions is an important part of residents' sense of ownership of their neighborhoods.

The City should promote its School Safety Program, a community and school-based approach to slowing traffic near schools, in order to ensure the safety of children crossing streets.

Policies

26. The City should use a neighborhood traffic management process to systematically address neighborhood requests to "calm" or divert traffic, while maintaining necessary access. The City should work proactively with the community to promote this process and commit planning and traffic engineering staff resources to work closely with the community throughout each neighborhood process. Community participants should include residential, service and public safety interests, with participation organized through the appropriate district planning council, and offer an array of techniques, such as, but not limited to, those illustrated on pp. 38-43 of this plan. The City should work to allocate adequate resources to this priority.

27. The City should explore a variety of traffic-calming road design options with interested neighborhoods at the time that local street construction is being planned.

28. The City should install "chokers" as standard design where streets in school zones are reconstructed. "Chokers" (also known as "bump-outs") are illustrated in the Neighborhood Traffic Management Techniques section of this Plan. (pp. 38-43).

29. The City should promote its School Safety Program which is a systematic, community and school-based approach to slowing traffic near schools, in order to ensure the safety of children crossing streets within a school zone. The School Safety Program should offer education, enforcement, and engineering tools to calm traffic in school zones. Participants in this process should include city traffic engineering and public safety expertise, the project school's administration, the school parent group, and the appropriate district council. The array of techniques found on pages 38-43 in this plan are offered through the School Safety Program. In addition, the City should include the option of installing a "key mechanism" at signal-controlled intersections to assist school children in safely crossing busy streets when required by a school and appropriate district council.

30. The City should continue its current adopted policy with regard to the installation of all-way stop sign controls. This policy directs that all-way signs on collector or arterial roadways must meet appropriate spacing and traffic volume requirements and have district council approval, and that all-way stop signs on local streets meet safety standards, are supported by a neighborhood petition, and have district council approval.

31. The City should increase traffic enforcement to improve public safety.

32. The City should support State legislation that will allow implementation of new enforcement technology such as photo-radar, photo-cop, and photo-redlight, in order to enhance traffic enforcement and improve safety.

33. The City should continue to review the results of State air quality monitoring in Saint Paul and work with the State and Metropolitan Council to devise strategies as needed.

34. The City should make no comprehensive changes to the truck route system at this time but rather review proposed changes to the system, with the objective of minimizing the noise and other impacts on sensitive land uses while meeting the transport needs of business.

35. The City supports the use of smaller buses for neighborhood circulators as part of the redesign of the transit system recommended in Policy 73 (p. 24) of this Plan.

36. The City should limit negative impacts on residential properties in neighborhoods with the greatest parking spillover from commercial strips by regulating land use and offering the option of residential permit parking.

37. The City should work with developers to plan access points and parking facilities for business areas with sensitivity to affected residential neighborhoods.

Objective: Neighborhood Enhancement

Consider transportation infrastructure as part of neighborhood physical fabric and as a physical way to create community, and give deliberate attention to neighborhood character and the need for community connections when designing transportation improvements, such as transit stops, pedestrian ways, bikeways, parking lots and facilities, bridges, signs, and lighting.

Design of transportation improvements is important because:

- it affects how people feel about their neighborhoods and is reflected in private investment,
- it can set Saint Paul apart by capitalizing on the special qualities of its neighborhoods, and
- the sense of community is built at the neighborhood level, with physical design as a critical component.

Policies

38. The City should incorporate in the principles recommended in Policy 13 (p. 10), streetscape guidelines which emphasize enhancement of the neighborhood environment, particularly its pedestrian quality, in accordance with its historical development patterns and current uses, and which maintain and improve a feeling of personal safety among users.

39. The City should require parking lots to have a strong landscaped edge along the street, and encourage landscaping within parking lots. The City should find ways to encourage or require improvement of existing parking lots, as well as newly constructed lots. Landscaping should be aesthetically pleasing and provide a sense of public safety.

40. The City should require construction of new parking ramps to be compatible with the neighborhood.

41. The City should complete its residential street paving program, setting neighborhood priorities based on cost effectiveness and economic and community development and public safety goals.

42. The City should use its land use and development regulatory powers to reinforce major transit destinations and significant transfer points as

central neighborhood places, where appropriate. Likewise, when transitways — busways or LRT — are built, the City should work with planning and implementing agencies to ensure that they are designed to support human scale, social fabric and neighborhood identity.

43. The City should continue to work with other agencies to enhance the design of transportation improvements (streets, lighting, bridges, parking facilities, transit shelters, bike paths, walkways) in accordance with community and neighborhood objectives. The City should continue its practice of using a community-inclusive design process for major transportation projects.

44. The City supports customizing of neighborhood circulator buses to reflect the identity of the neighborhoods they serve.

45. The City should ensure that fair and adequate capital, operating, and maintenance funding is a condition of approving above-standard design and materials in public improvements.

46. The City should continue to enhance its parkway system through appropriate design and landscaping, limitations on uses within and adjacent to parkways to ensure compatibility and preserve aesthetic character, limitations on traffic speeds and vehicle access, and provision of separate pedestrian and bikeways, where feasible.

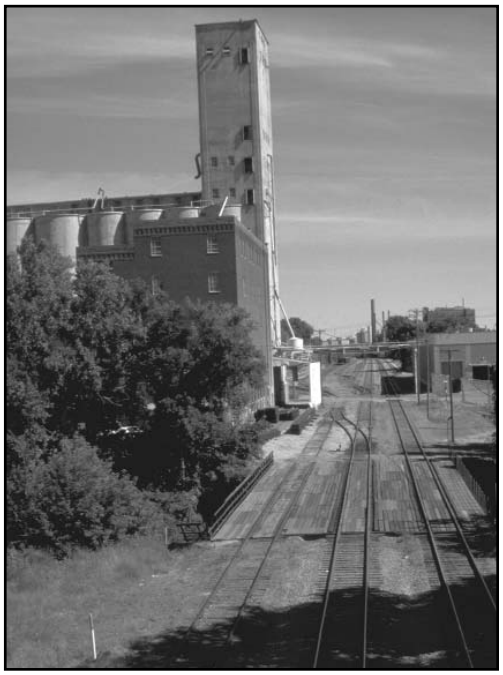
Objective: Economic Development

Preserve and strengthen accessibility to the regional transportation system and target the scale and type of commercial and industrial development to locations with appropriate access and visibility, and where there is adequate carrying capacity in the street system. Make system improvements in support of business development and job creation.

It is important to link regional and local transportation infrastructure planning with commercial and industrial development because:

- access to markets, goods, and labor is essential for Saint Paul to maintain and improve its economic competitiveness,
- specific redevelopment efforts are most likely to succeed when keyed to today's access needs and opportunities,
- locating commercial/industrial activity where regional access is good will also generally minimize conflicts with sensitive uses, and

- understanding the capacity of the system to handle the demands of commercial/industrial uses helps to minimize congestion and attendant public capital expenditures.



Policies

47. The City should construct Phalen Boulevard as part of the industrial redevelopment of the under-utilized railroad corridor on the city's East Side.

48. The City should continue to use business development and job creation as criteria for programming capital transportation improvements.

49. The City should participate in regional planning efforts to improve Saint Paul's connection with the metropolitan road system.

50. The City should strongly promote regional transportation policies that discourage regional sprawl and subsequent disinvestment in the metropolitan core.

51. The City should promote regional transit investments and operations that maintain good linkages between business and labor and markets, including:
    a. focus of high-frequency, large-bus, regular route service on areas with high population and job density,
    b. support of the central corridor between downtown Saint Paul and

downtown Minneapolis as the top priority for development of transit ways — busways and/or LRT — in the region, and

c. targeted reverse commuting.

52. The City should work to ensure targeting of public investment and economic development incentives around major transit destinations and significant transfer points, including LRT stations.

53. The City should ensure business and service interests are included in the neighborhood traffic management process described in Policy 26 (p. 13).

54. The City should ensure that the transport needs of business are met when reviewing change requests to the truck route map. (See Policy 34, p. 15.)

55. The City should consider vacating unnecessary streets, such as those platted and unpaved or those that create short blocks, for housing or economic development opportunities.

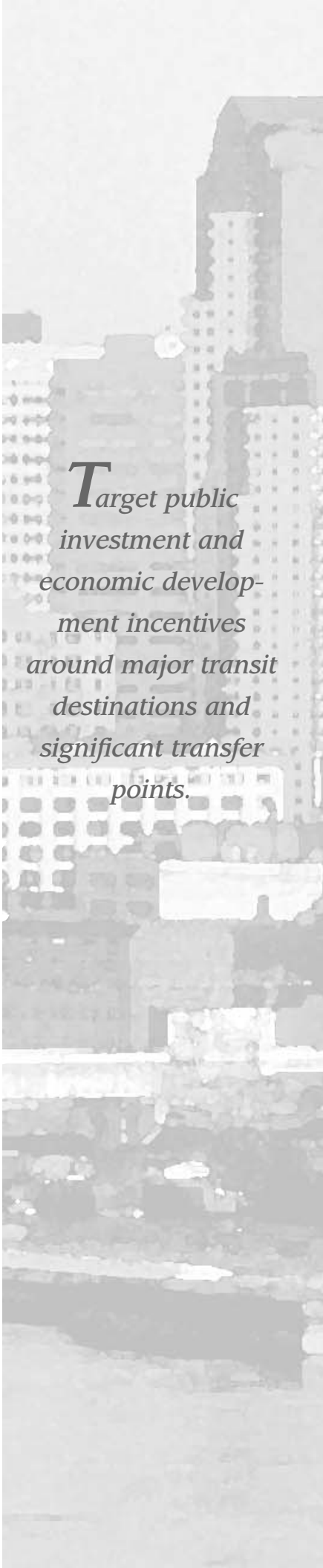
Objective: Downtown Revitalization and Riverfront Development

Address the special transportation issues in the downtown that result from its nature as the focus of economic activity, home for a growing number of visitor attractions, unique residential neighborhood, and symbolic heart of the city and state. Invest in transportation infrastructure to facilitate the redevelopment of the riverfront as a truly remarkable urban place connected to and benefiting the entire city.

It is important to resolve the special transportation issues facing Saint Paul's downtown because:

- downtown is Saint Paul's major traffic generator,
- access, parking, and circulation are critical factors in the downtown business climate, the potential for new development, and the attractiveness to visitors, and
- pedestrian safety and enjoyment are very important to the quality of the downtown experience for its visitors, workers and residents.

It is important to focus on transportation improvements to Saint Paul's riverfront because:



- rejuvenation of the riverfront offers a unique opportunity to remake an urban area with a strengthened sense of place and connection to the outdoors, to counterbalance pressures for suburban expansion, to increase the critical mass of people living in and near downtown, and to provide a psychological lift to the city as a whole, and
- transportation infrastructure (streets, bridges, bikeways and pedestrian ways) will frame and serve new riverfront development, make connections within the riverfront and between the river and the rest of the city, and set the standard through their aesthetic quality.

Policies

56. The City should continue to work with regional transit agencies to ensure the transit system design in the downtown results in bus travel that is an efficient and user-friendly, therefore attractive, alternative to workers, shoppers, and visitors, while allowing smooth traffic flow overall.

57. The City should continue to participate in light rail transit (LRT) planning to ensure that, when it is implemented, downtown Saint Paul will be well served, with low-platform boarding, and with stations located and designed as integral parts of their surroundings.

58. The City should make the downtown a more pleasant pedestrian environment through sidewalk widening/street narrowing (where street capacity exists in excess of expected development needs), special paving materials, landscaping, and signs.

59. The City should make capital or operational street capacity improvements at those downtown locations where serious traffic congestion is occurring and should support freeway capacity improvements that provide capacity to alleviate congestion at the northbound ramps out of downtown.

60. The City should work to reduce the need for parking by working with the downtown community and large employers to develop specific employee incentives such as reduced-cost parking for carpool and van pool in preferential locations, direct employee incentives to use transit, and continued efforts to improve bus service and creature comforts.

61. The City should work to ensure an adequate supply of automobile parking in the downtown by
    a. increasing the parking supply where employee demand is not being met through constructing more spaces in or near the west core of downtown;
    b. ensuring parking availability to attract new tenants downtown through a parking clearinghouse/guarantee program; and
    c. working with others to market existing parking in the downtown.

62. The City should continue to work with the downtown community to handle the special traffic and parking demands generated by special events and downtown attractions. Interactive Transportation Information (ITI) systems like the recently-installed Advanced Parking Information System, should be explored and implemented where applicable. Availability of alternate modes of transportation, such as mass transit or taxi cabs, should be encouraged.

63. The City should seek to make downtown businesses and events more accessible to visitors by encouraging greater overall use of taxi cabs.

64. The City should support biking as a means of travel to the downtown by providing bike route accommodation into downtown, working with the downtown community to provide bicycle parking/storage at assorted locations, especially serving downtown parks and museums, and by encouraging employer amenities and marketing.

65. The City should improve pedestrian linkages between downtown and adjacent neighborhoods, the Mississippi River, and the Capitol area.

66. The City should incorporate the recommendations of the adopted Lowertown Small Area Plan, the recommendations of the downtown portions of the Saint Paul on the Mississippi development framework that improve the pedestrian realm, while ensuring adequate vehicular access in support of downtown development.

67. The City should work to ensure security, maintenance, uniform hours of operation, and uniform signage and maintenance in the skyway system. Continued development of the downtown skyway system shall be in accordance with the General Policy Statement for the Construction of the Saint Paul Skyway System. As stated in that policy, extensions to the system should be evaluated on the basis of (a) the density of new development to be served, (b) the architectural significance of the buildings to be connected, (c) the impact on views of significant natural and built features, (d) the impact on at-grade pedestrian activity and vitality, (e) the feasibility of alternative connections, and (f) the impact on system conti-

nuity; additions to the system should employ the present standard exterior design.

68. The City should work with the downtown business community to develop adequate funding and operational mechanisms to ensure maintenance of streetscape improvements.

69. The City should make transportation investments based upon the Saint Paul on the Mississippi development framework that
    a. emphasizes pedestrian activity (at-grade and vertical),
    b. directs that roads and bridges be carefully designed in order to establish the context and set the standard for private development,
    c. provides strong connections between individual riverfront developments, and
    d. provides strong connections between the riverfront and the downtown and adjacent neighborhoods.

70. The City should consolidate river crossings wherever possible to avoid any unecessary additional impairment of views into and within the river corridor for its Saint Paul stretch.

71. The City should develop street/sidewalk design and management strategies that, in concert with land use and development, extend the impact of the new Wabasha Street bridge to create a pedestrian-oriented Wabasha corridor that ties the Capitol with the Concord/Robert commercial area. (See Saint Paul on the Mississippi Development Framework — Concept Map, p. 37.)

6.0 *Strategy 3.* Travel Mode Choice

A System that Works for individuals. *The City of Saint Paul will work to ensure a transportation system where different modes of travel—auto, public transit, bicycle, wheelchair, or walking—more comfortably co-exist and where individual modes of choice are well-accomodated.*

Objective: Transit Improvement

Work with regional transit agencies to recapture ridership and serve the transit-dependent by matching transit service with travel need.

Better transit service is needed because:

- the accessibility of transit-dependent populations to jobs and services is being limited,
- in dense urban areas, transit is more cost-effective and better for regional air quality than building greater street capacity for the use of (mainly single-occupant) automobiles, and
- transit complements urban neighborhood development patterns that support safe and cohesive communities and can spur economic growth.

The City supports a significant, long-term commitment by the State to reinvest in the regional transit system.

Policies

72. The City supports a significant, long-term commitment by the State to reinvest in the regional transit system, especially in ways that more equitably serve the transit-dependent, the core service area, and the eastern portion of the Twin Cities region.

73. The City supports adequate funding of both the bus system and LRT as complementary parts of a multi-modal transit system.

74. The City supports a redesign of the bus system to provide excellent service along major corridors (limited stop "spines") and better intra- and inter-neighborhood service, with continued strong focus on regular route service to the downtown, and general concentration on regular-route weekday service. Recommended corridors are illustrated in the proposed Transit Corridors. (p. 45)

75. The City supports:
    a. focus of bus system marketing on the occasional transit rider to become regular rider,
    b. the development of corridor service delivery and marketing plans which consider, in depth, the needs of potential riders in the corridor, and
    c. development of route and system information which is easier to understand than the current information.

76. The City supports security measures at neighborhood and downtown transit hubs and attention to security on buses.

77. The City supports regional policies that ensure, first and foremost, good service for the transit-dependent. As the first priority for use of resources, new service should be focused on lowest income neighborhoods.

78. The City opposes any additional "opting out" of the regional transit system.

79. The City should promote the focus of reverse commuting services on major suburban employers and city neighborhoods with high unemployment and should work with region transit providers and other stakeholders to identify these.

80. The City supports the central corridor between downtown Saint Paul and downtown Minneapolis as the top priority for development of transitways — busways and/or LRT— in the region.

81. The City should continue to forward Saint Paul interests in economic development, support of neighborhoods, and serious improvement of the bus service in future regional transitway planning efforts in order to produce a successful metropolitan transit system.

82. The City supports employer programs that encourage transit use by their employees.

Objective: Bicycle System Development

Develop a convenient, safe and attractive system of bicycle routes and facilities, integrated with other transportation systems, that serves the needs of commuting, utility, recreational and touring bicyclists of all ages.

More support of bicycling is needed because:

- it enhances the attractiveness, safety and livability of Saint Paul,
- it is desirable to have attractive alternatives to single-occupancy vehicle travel,
- the availability of bike lanes and parking is the major influence on how attractive biking is for transportation purposes, and
- there are currently limited exclusive on-street bike lanes or secure bike parking options in Saint Paul.

Policies

83. The City should develop a network of interconnected on and off-street bike routes that:
    a. provide safe and convenient access to work, schools and shopping,
    b. tie neighborhoods together,
    c. link up with bike routes in surrounding municipalities,
    d. help complete a regional bikeway system, and
    e. create linear parks with scenic vistas, historic and cultural interpretive opportunities, and connections to regional open space. (See Bikeway Plan, p. 47.)

84. The City should continue and expand its efforts to secure state and federal funding assistance for development of bicycling infrastructure.

85. The City should work with private interests to provide support infrastructure for biking, including safe storage and personal accommodations for cyclists at work places.

86. The City should work to improve education of drivers regarding bicyclists' rights, and of bicyclists (especially children) regarding their responsibilities, and to improve enforcement of the applicable laws.

87. The City should market use of the bikeway system through distribution of informational materials and promotion of bicycling events.

Develop a convenient, safe and attractive system of bicycle routes and facilities.

Objective: Pedestrian Safety and Comfort

Strengthen the quality of the pedestrian experience in neighborhoods and business areas, with pedestrian safety as a minimum requirement for sidewalk installation and maintenance.

Attention to the pedestrian environment, with safety as a minimum guide, is important because:

- it is at the pedestrian level that people most closely relate to their environment and to each other,
- the human, accessible scale of the city, though diminished by pervasive preference for auto travel, contrasts it positively with suburban locations, and
- safety provides clear public purpose to the often-controversial issue of sidewalk installation.

Policies

88. To provide access to popular pedestrian destinations, the City should install new sidewalks where pedestrian safety is at risk, particularly that of children and persons with disabilities. The City should, at a minimum, install sidewalks on one side of every street that has a functional classification above **local**.

89. The City should repair hazardous sidewalks as quickly as possible and investigate alternatives to the current repair policy (procedures and financing) in order to repair sidewalks more systematically and at a lower overall cost to taxpayers.

90. The City should not remove sidewalks unless there is a compelling reason to do so.

91. The City should, with the U of M Center for Transportation Studies, MnDOT and the Institute for Traffic Engineers, conduct a comprehensive evaluation to determine the effect of signal timing changes, for longer pedestrian crossing times, on pedestrian safety and traffic conditions, and, following City Council review, implement the recommendation resulting from this study, as appropriate.

92. The City should implement a neighborhood traffic calming program that includes education, enforcement, and engineering resources to address pedestrian safety on streets and alleys. (Also see Policy 26 and 27, pp. 13-14.)

93. The City should improve compliance with the existing sidewalk snow

removal ordinance by clarifying the responsibility for its enforcement within the City government and by initiating an educational campaign/ appeal to encourage voluntary compliance with the ordinance.

94. The City should use its development policies and design standards to improve the quality of the pedestrian experience throughout the city.

95. The City should continue to implement accident reduction improvements at locations where pedestrian safety is at particular risk.

Policies found elsewhere in this Plan which support pedestrian safety and comfort include Policies 3, 7, 8, 9, 26, 27, 28, 29, 30, 38, 43, 58, 65, 66, 67, 69, and 71.

Objective: Accessibility

Ensure that pedestrian ways, transit, and automobile parking are designed to serve rather than frustrate the transportation needs of persons with physical impairments to mobility and accessibility.

The Plan must recognize and correct where barriers to access and mobility exist because:

- the city belongs to all its citizens and benefits from their unfettered participation in community life, and
- barriers to accessibility will affect more and more people as our population continues to age.

Policies

96. The City should continue to install ramped sidewalk corners as part of new sidewalk construction through a program of annual retrofit of the existing sidewalk system.

97. The City should work with other agencies to promote conformance with the requirements of the Americans with Disabilities Act of 1990 as they pertain to transportation facilities.

98. The City should complete retrofit of the downtown skyway system so that it will be fully accessible to persons with disabilities.

99. The City supports transit service that is accessible, convenient and affordable for persons with disabilities, as well as being cost-effective for the system.

Objective: Sensible, Safe Automobile Use

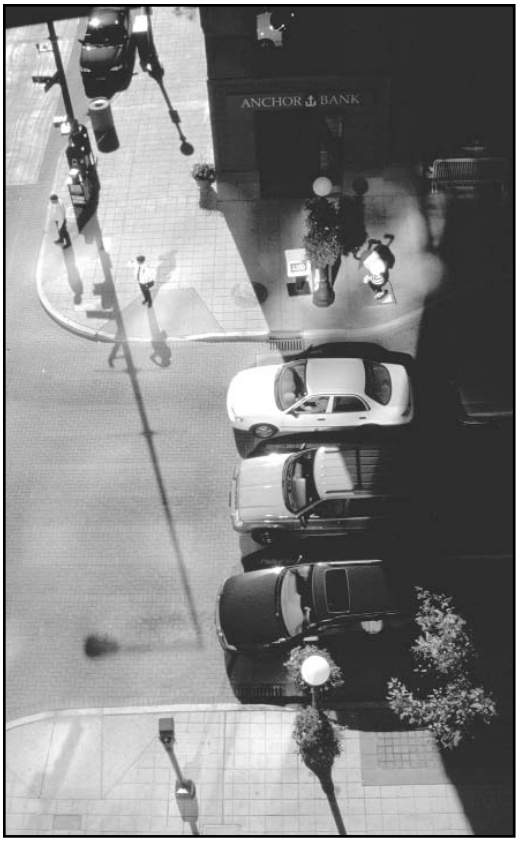
Continue to emphasize automobile safety and reasonable access and mobility while working to better rationalize auto use by encouraging higher vehicle occupancy.

Higher automobile occupancy (carpooling) is desirable because:

- it extends the capacity of the system,
- it has less impact on the environment,
- it is cheaper for the traveler, and
- there are often no viable alternatives to single-occupant auto travel.

Even as more emphasis is being placed on alternative modes, continued care for safe and reasonable accommodation of the auto is necessary because:

- for the foreseeable future, the automobile will be the preferred mode of travel for most people in most circumstances.



Policies

100. The City should continue to implement accident reduction improvements in locations where motorist safety is at particular risk.

101. The City should monitor the development of new technologies that provide opportunities to improve safety through traffic management.

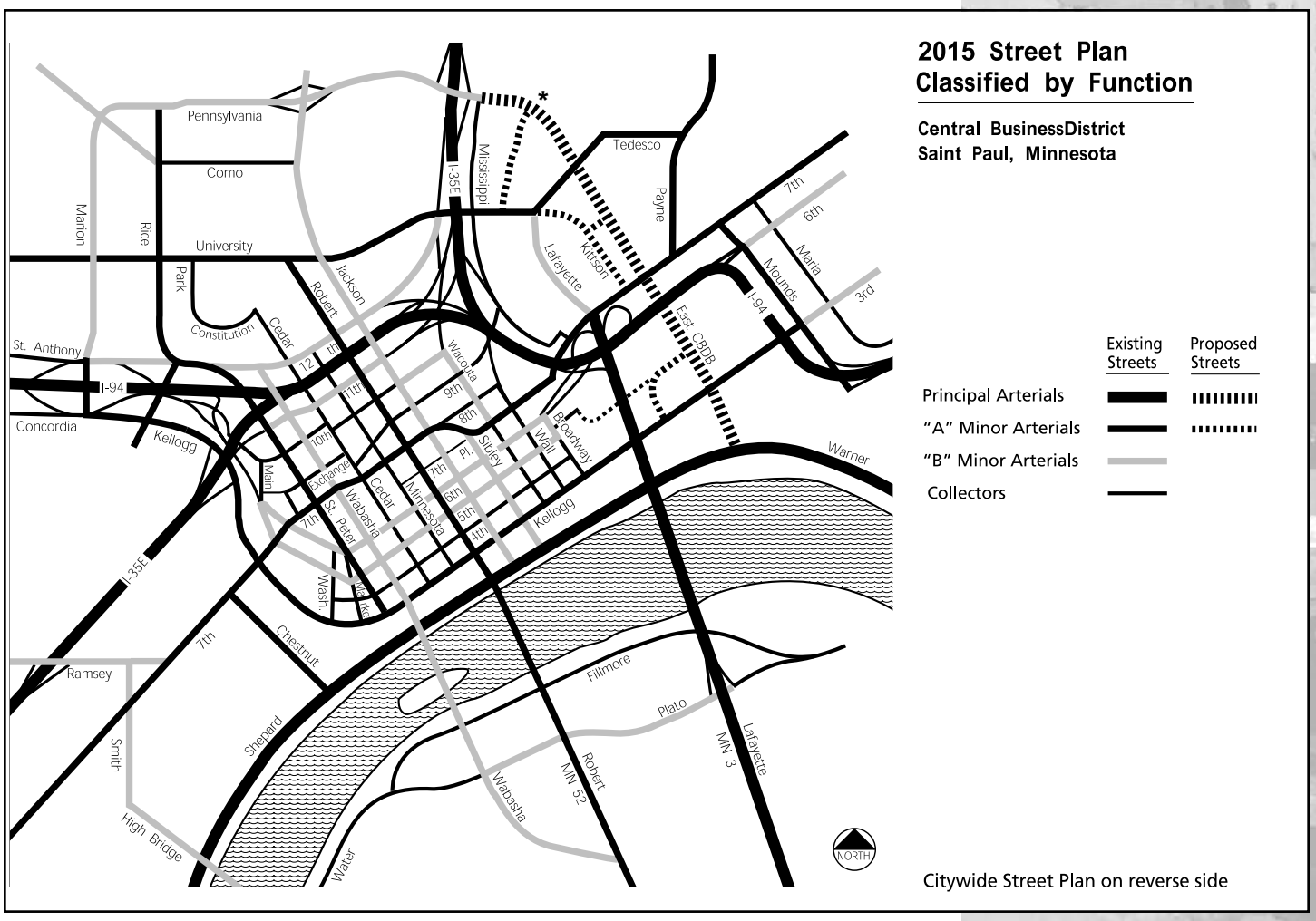
102. The City should participate in the State's "Clean Fuels Minnesota Initiative."

Policies found elsewhere in this Plan which support carpooling include Policies 2, 3, 7, 8, 9, and 60.

7.0 Physical Plan

The following figures make up the physical plan for transportation in Saint Paul.

- Street Plan Classified by Function
- Truck Route Map
- Saint Paul on the Mississippi Development Framework Concept Map
- Neighborhood Traffic Management Techniques
- Proposed Transit Corridors
- Bikeway Plan



Citywide Street Plan on reverse side

FUNCTIONAL CLASSIFICATION

The street map classifies each street in the system according to its function, that is, to what extent it operates to move traffic and to what extent it operates to provide access to abutting properties.

These classifications are consistent with County, Metropolitan, and State transportation plan classifications. The classifications are:

Principal Arterial. Roadways on the metropolitan highway system.

Minor Arterials, Class A. The main access routes to principal arterials for people beginning or ending their trip within Saint Paul. Also provide access to the central business district (CBD) and to regional business concentrations.

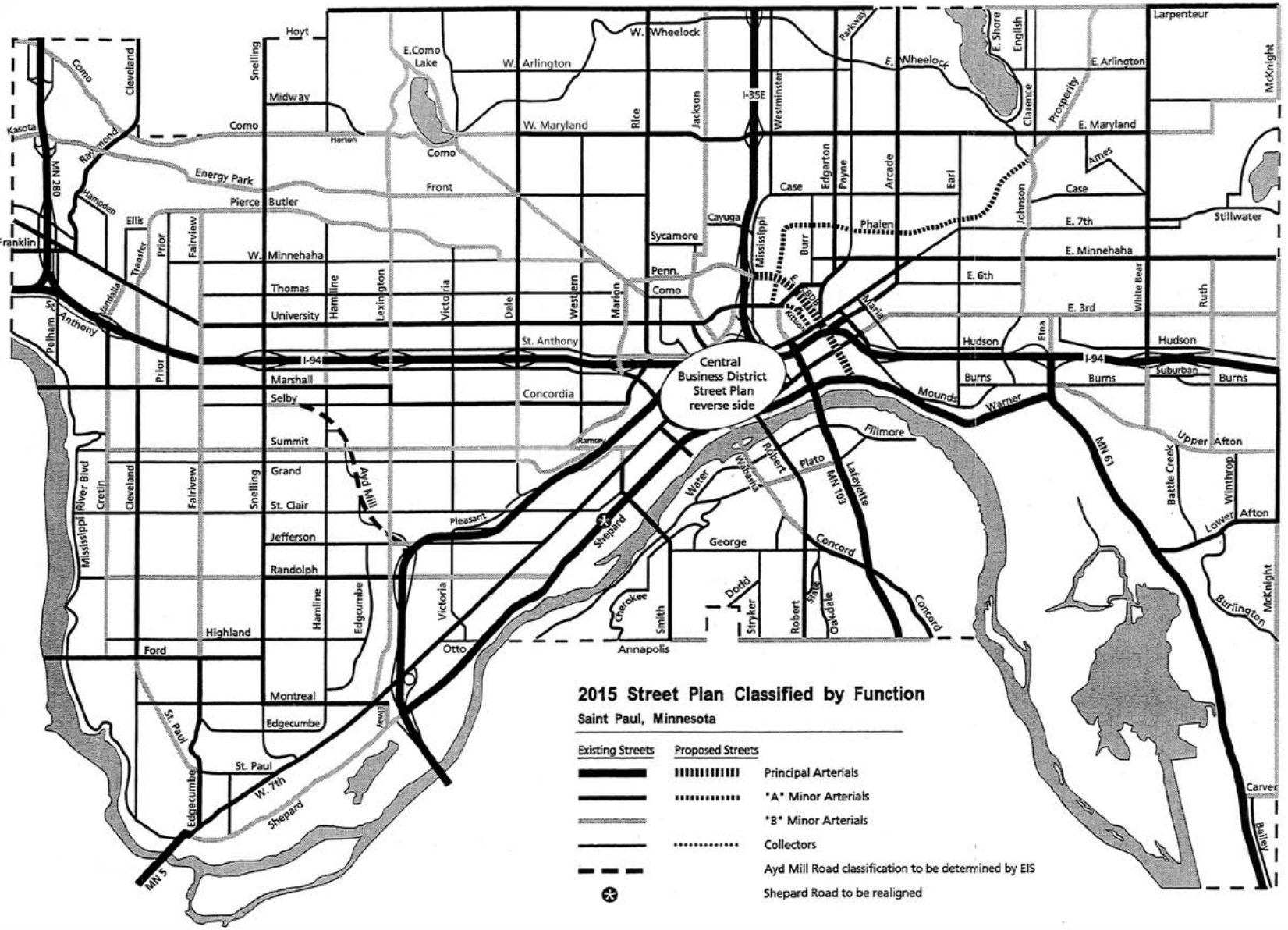
Minor Arterials, Class B. Provide access to class A Minor Arterials and the Principal Arterials from the neighborhoods.

Collectors. Provide access to the arterial network. Also allow inter-neighborhood movement between adjacent neighborhoods to replace some function of the minor arterials. Some through movement likely but should be small.

These classifications are based upon the function of each street rather than its volume or design, although streets which function as movers of longer distance traffic do tend to attract higher volumes than those that carry traffic shorter distances.

The street plan represents how the system operates today and how the City plans for it to operate in the future. Policies 11-16 support maintaining the current function of streets and protecting them from upgrade overal.

The function classification plan recognizes the existing operation of streets within the Saint Paul system. How a street functions is related to jurisdiction and funding. Street design is based on use, including pedestrian, bicycle, and parking, traffic volumes and design speed of the street, rather than its classification. This Transportation Policy Plan recommends using the recent urban State Aid design standards in conjunction with aggressive use of appropriate traffic calming measures, traffic system and demand management, improved transit service to minimize street widths and make Saint Paul a more pedestrian-friendly city.



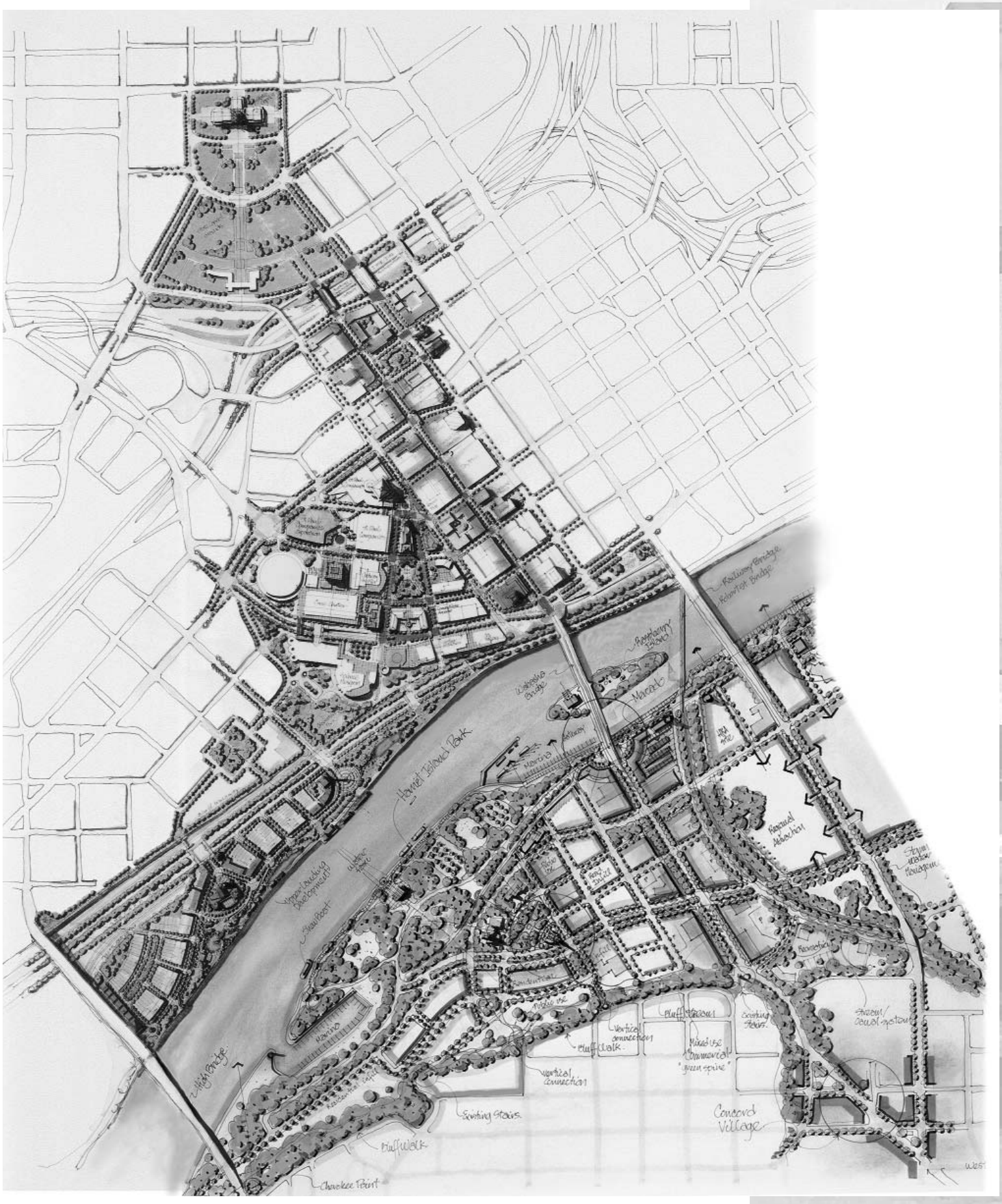
Wabasha Bridge Concept Drawing

Saint Paul on the Mississippi Development Framework

The Capitol-Mississippi Crescent Concept

Transportation Principles *(See policies 65 and 66, p. 29)*

- Wabasha Street as a strong pedestrian corridor, linking the Capitol, downtown, the river and the Concord/Robert Area
- Shepard/Warner as a continuous, safe, traffic-calmed, pedestrian and bike-friendly civic element, framing public activity and future development
- Quality design of infrastructure
- Strong connections (vehicular, bicycle, visual) among riverfront developments
- Strong connections between riverfront development and the river
- Strong connections between riverfront development and the downtown and neighborhoods

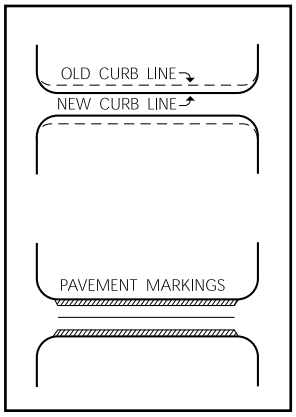

Railway Bridge
Arboretum Island
Walkway Bridge
Marina
Harriet Tubman Park
Harriet Tubman
Upper Landing Development
Bluff Boost
Vertical connection
Bluff Walk
Mixed Use Commercial "green spine"
Existing Stairs
Conserv Village
Cherokee Point
West

7.0 Neighborhood Traffic Management Techniques

Road Design Techniques

Road design techniques involve reconstruction of streets or intersections, which can be very costly, although costs can vary significantly depending upon conditions. The techniques of more moderate cost are noted.

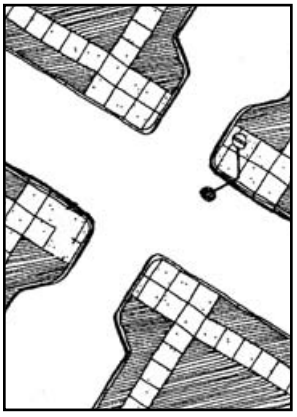
A variety of traffic management techniques for residential streets is illustrated here, along with a generalized assessment of how each technique performs against key measures. The techniques include road design, traffic controls, and enforcement/education.



Street Narrowing

Reduction of the typical pavement width along a right-of-way. Achieved physically by removing part of the pavement surface or psychologically through pavement marking.

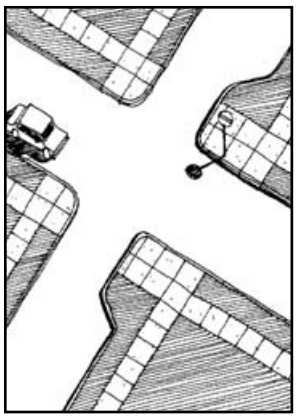
Volumes. Little or no effect.
Speed. Some reduction possible.
Safety. Minimal effect on accidents overall on local streets. Possible improved pedestrian safety. Bike safety may be compromised. Pavement markings particularly effective on collector, arterial streets.
Noise, air pollution. Some reduction.
Access. No restriction.
Community reaction. Mixed. Residents like "feel," associated amenities; dislike loss of on-street parking if taken.
Other Considerations. Minimum lane width of 11 feet recommended for safety. Opportunities for landscaping, other amenities.



Chokers

Narrowing of the street, either at an intersection or at midblock to constrain the width of the traveled way.

Volumes. Little or no effect, if two-way travel remains. Significant reduction if section can only be used one direction at a time.
Speed. Little or no effect.
Safety. Improvement for both vehicles and pedestrians.
Noise, air pollution. Little or no effect.
Access. Little effect.
Community reaction. Generally positive.
Other considerations. Landscaping opportunities.



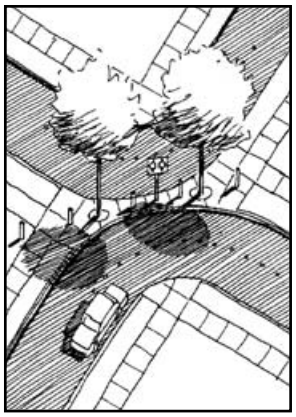
Partial Diverters

Narrowing of a two-way street at the intersection in order to eliminate one direction of travel.

Volumes. Drastic reduction on diverted street. Increase on alternate routes.
Speed. Reduction in the closed direction.
Safety. Substantial improvement.
Noise, air pollution. Reductions.
Access. Restricted. Emergency access somewhat restricted.
Community reaction. Can be negative. Requires heavy resident involvement, education, before making capital investment.
Other considerations. Enforcement.

Policy 26 recommends use of a neighborhood traffic management process to systematically address neighborhood requests to "calm" or divert traffic, and says that this process should offer an array of techniques.

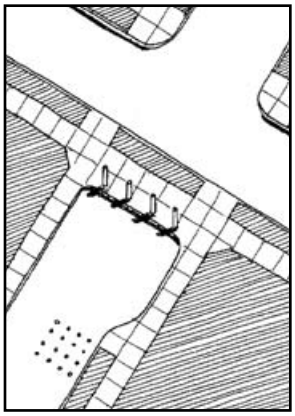
Which traffic management technique or combination of techniques should be applied in a neighborhood will be determined by the area's physical characteristics, the nature of the traffic issue, and the expected cost, effectiveness, and acceptance by the community. The neighborhood traffic management process allows the City and the community to explore traffic problems and options together, resulting in a recommendation that will be most likely to achieve the neighborhood's objectives.



Full Diverter

Raised barrier placed diagonally across an intersection that physically divides the intersection and forces all traffic to make a sharp turn.

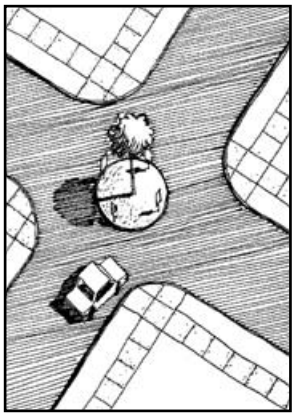
Volumes. Reduction. Diverted to other streets.
Speed. Moderate reduction.
Safety. Improvement.
Noise, air pollution. Little or no impact.
Access. Restricted. Emergency access a concern.
Community reaction. Often negative concerns about visitors, deliveries, neighborhood division.
Other considerations. Drainage.



Street Closure

Closing a street either at one end or the other, or at a mid-block location, to eliminate unwanted through-traffic.

Volumes. Drastic reduction.
Speed. Drastic reduction.
Safety. Substantial improvement.
Noise, air pollution. Positive effect.
Access. Restricted. Accommodations for emergency access may be needed.
Community reaction. Positive resident reaction; negative traveling public reaction.



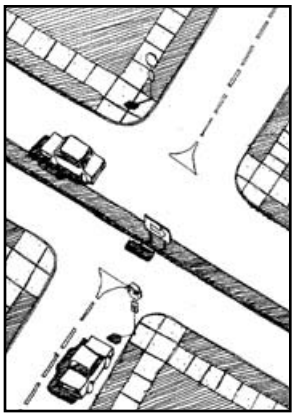
Traffic Circles

Raised geometric control island, frequently circular, typically about 20 feet in diameter, in the center of an intersection of local streets.

Volumes. Little or no impact.
Speed. Reduction near intersection. Possible increase mid-block.
Safety. Improvement to accident-prone intersections.
Noise, air pollution. Negative effect.
Access. Little general effect. Negative effect on emergency access.
Community reaction. Mixed. Positive reaction to aesthetics (if done well). Concerns about obstructions, hazard, loss of parking.
Other considerations. Snow removal. Left turns.

REFERENCES: *Neighborhood Traffic Control,* North Central Section Institute of Transportation Engineers, January 1994, *Traffic Calming,* Cynthia L. Hoyles, American Planning Association, July 1995.

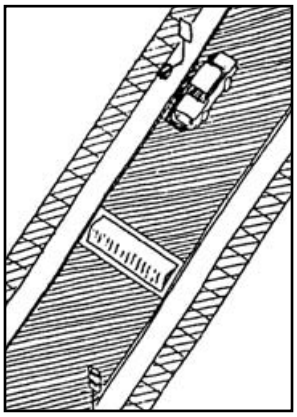
Road Design Techniques



Median Barriers

Barrier in the median of the major street at its intersection with a local street to prevent left turns from the major street to the local street, as well as through traffic on the local street.

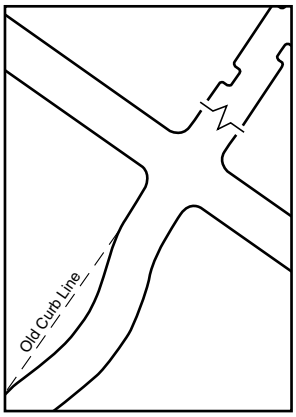
Volumes. Significant reduction.
Speed. Some reduction.
Safety. Improvement for vehicles and pedestrians.
Noise, air pollution. Positive effect where volumes reduced; pollution could shift.
Access. Restricted. Emergency access affected.
Community reaction. Positive resident reaction.



Speed Humps/Bumps

Raised areas in the roadway surface width extend across the roadway perpendicular to traffic flow.

Volumes. Volume reductions depend upon space of humps/bumps, amount of cut-through traffic and availability of alternative routes.
Speed. Significant reduction.
Safety. Little effect.
Noise, air pollution. Negative air pollution effects possible. Noise impacts vary.
Access. Little effect.
Community reaction. Positive resident reaction. Negative traveling public reaction.
Other considerations. Impacts on large trucks, buses. These users should be involved in process.



Curvilinear Reconstruction

Introduction of curvatures on previously straight alignment through reconstruction of the street with a curved centerline alignment and a uniform roadway width, or introduction of chokers or other types of barriers on alternate sides of the street to create a serpentine travel path.

Volumes. Little or no effect if the same number of travel lanes are retained. Significant reductions if barriers limit use of section to one direction at a time.
Speed. Little or no effect for uniform width construction; reduction where barriers are constructed.
Safety. Mixed results.
Noise, air pollution. Little or no effect.
Access. Little effect.
Community reaction. Mixed.
Other considerations. Landscaping opportunities.

The neighborhood traffic management process is underway is Saint Paul. Among the areas involved (at writing of this Plan) are:

- Doswell/Chelmsford
- Margaret/Arcade
- Railroad Island
- Bidwell/Congress
- Thomas/MacKubin
- Morgan/Edgcumbe
- LaFond/Grotto

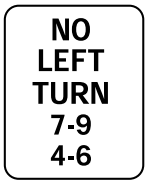
Traffic Control Techniques

Traffic control techniques involve low capital costs, although area wide or citywide application of some controls can be a serious fiscal commitment.

Truck Restrictions

Posting the roadway with specific load limit requirements and/or signing of truck routes.

Volumes. Heavy commercial traffic reduced; shifted to other routes.
Speed. Little or no effect.
Safety. Little or no effect.
Noise, air pollution. Positive effect.
Access. Restricted. No effect on emergency access.
Community reaction. Generally positive, where restricted. Shifting can occur. Businesses generating heavy truck traffic inconvenienced.
Other considerations. Street load capacity. Legal, practical considerations.



Turn Restrictions

Use of regulator signing to prohibit certain traffic movements generally where an arterial and local street meet.

Volumes. Reduction on diverted streets; increase on alternative routes.
Speed. Reduction on the diverted street.
Safety. Improvement on diverted streets.
Noise, air pollution. Shifted.
Access. Restricted.
Community reaction. Generally positive if a reasonable alternate route exists.

Basket Weave Stop Signs

Alternating two-way stop control within an area of local residential streets.

Volumes. Minimal effect.
Speed. Reduced within 200 feet of the stop sign. Increase in speed between stop signs.
Safety. Significant improvement at accident-prone intersection.
Noise, air pollution. Negative effect.
Access. Little effect.
Community reaction. Usually positive.
Other considerations. Ice.

Yield Signs

Signage assigning right-of-way at intersections.

Volumes. Little or no effect.
Speed. Reduced within 50 feet of the yield sign.
Safety. Mixed results.
Noise, air pollution. Negative effect.
Access. Little effect.
Community reaction. Generally positive.
Other considerations. Frequently generate requests for stop signs after accidents or near misses.

Do Not Enter

Signage prohibiting vehicles from entering a roadway.

Volumes. Dramatic reduction on prohibited street; increase on alternate routes.
Speed. Reduction.
Safety. Improvement on restricted street.
Noise, air pollution. Positive effect on restricted street; often shifted.
Access. Restricted.
Community reaction. Generally positive if alternate routes exists.

Speed Limit Changes

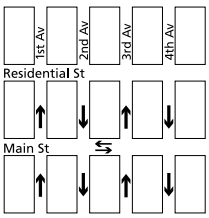
Change to the legal speed limit, based upon traffic behavior, hazards, obstructions, access points, pedestrian use, and road alignment.

Volumes. Little or no effect.
Speed. Enforcement required to achieve reduction.
Safety. No documentation.
Noise, air pollution. Little or no effect.
Access. No change.
Community reaction. Residents support significantly lower speeds.
Other considerations. Broader issue of how limits are set.

Parking Restrictions

Legally restricting parking at near intersections and crosswalks (clearance zones) or along the length of the block (extended zones).

Volumes. Little or no effect.
Speed. Clearance zones: minimal effect. Extended zones: potential for increased speeds.
Safety. Improvement.
Noise, air pollution. Little or no effect.
Access. No effect.
Community reaction. Varied.



Alternating one-way streets

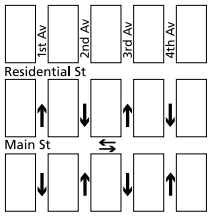
Conversion of two-way streets to one-way operation in an alternating pattern.

Volumes. Little or no effect.
Speed. Increase.
Safety. Improvement.
Noise, air pollution. Little or no effect.
Access. Some restriction.
Community reaction. Mixed.
Other considerations. Parking. Bicycle traffic.

Watch for Children

Signage that warns of the presence of children.

Volumes. No effect.
Speed. Little or no effect.
Safety. Little or no effect.
Noise, air pollution. Little or no effect.
Access. No effect.
Community reaction. Positive.
Other considerations. Traffic studies do not demonstrate effectiveness of this type of signage.



Divergent/ convergent one-way streets

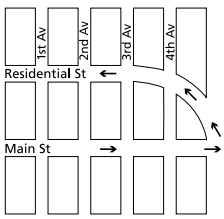
Conversion of two-way local streets to one-way operation; the one-way direction changes at the arterial to "diverge" from it or "converge" upon it.

Volumes. Reduction.
Speed. Increase.
Safety. Improvement.
Noise, air pollution. Possible negative air quality.
Access. Some restriction impacts.
Community reaction. Mixed.
Other considerations. Parking. Bicycle traffic.

All Way Stop

Stop signs on all legs of the intersection.

Volumes. Depends upon nature of traffic.
Speed. Little or no effect.
Safety. Improvement when warrants are met or where sight distances are poor.
Noise, air pollution. Negative impacts.
Access. Little effect.
Community reaction. Mixed.
Other considerations. Concern about misuse of stop signs.



One-way Pairs

Creating a one-way couplet by paring a residential street with a nearby through street to create a corridor for through traffic.

Volumes. Increase on one; reduction on adjacent.
Speed. Increase.
Safety. Improvement.
Noise, air pollution. Little or no effect.
Access. Some restriction.
Community reaction. Mixed.
Other considerations. Parking. Bicycle traffic.

Enforcement/Educational Techniques

Enforcement techniques often involve increased operational costs.

Traditional Enforcement

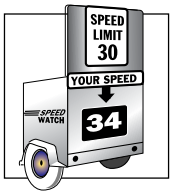
Usually involves the use of radar to identify speeders and subsequent ticketing of speed violators.

Volumes. Little or no effect.
Speed. Appreciable reduction during period of enforcement.
Safety. Improved during period of enforcement.
Noise, air pollution. Usually little effect.
Community reaction. Mixed.
Other considerations. Budget and staff constraints.

Speed Watch

Neighborhood participation in radar observation of speeds and communication with violators.

Volumes. Little or no effect.
Speed. Substantial reduction.
Safety. Possible.
Noise, air pollution. Little or no effect.
Access. Not restricted.
Community reaction. Positive.
Other considerations. Training. "Vigilantism".



Variable Speed Display

Use of a portable speed display board wired to radar to alert motorists of their speed; educational campaign accompanies use of the board.

Volumes. Little or no effect.
Speed. Reduced while device is present.
Safety. Potential for sudden braking.
Noise, air pollution. Little or no effect.
Access. Not restricted.
Community reaction. Positive in the short term.
Other considerations. Needs monitoring. "Vigilantism".

School Safety Program

Policy 29 recommends promotion of the city's ***School Safety Program,*** a systematic, community and school-based approach to slowing traffic near schools. The array of techniques available to consider in this process includes those listed above. In addition, the ***School Safety Program*** identifies the following:

- **Raised Crosswalks** Crosswalks raised to the level of the curb: a combination of speed humps, chokers, and crosswalks. Raised crosswalks reduce vehicle speeds and enhance pedestrian crossing points.

- **Pavement Surface or Color Change** Alteration in the pavement surface (rumble strips) including brick, stamped concrete or a change in pavement color to alert drivers that they have entered a school zone.

- **Banners** Banners hung across roads near schools stating that it is a school zone and reminding drivers to reduce their speed. Most effective if they are moved periodically since their impact tends to decrease the longer they are in one place.

- **Barrels with Signs** Orange barrels placed in the middle of the road before crosswalks, topped by a yellow and red sign stating in large letters: "State Law: Stop for Pedestrians in Crosswalks." Slows traffic by alerting drivers that pedestrians may be crossing the road and by physically narrowing the road. Can easily be routinely removed and replaced.

TRANSIT CORRIDORS

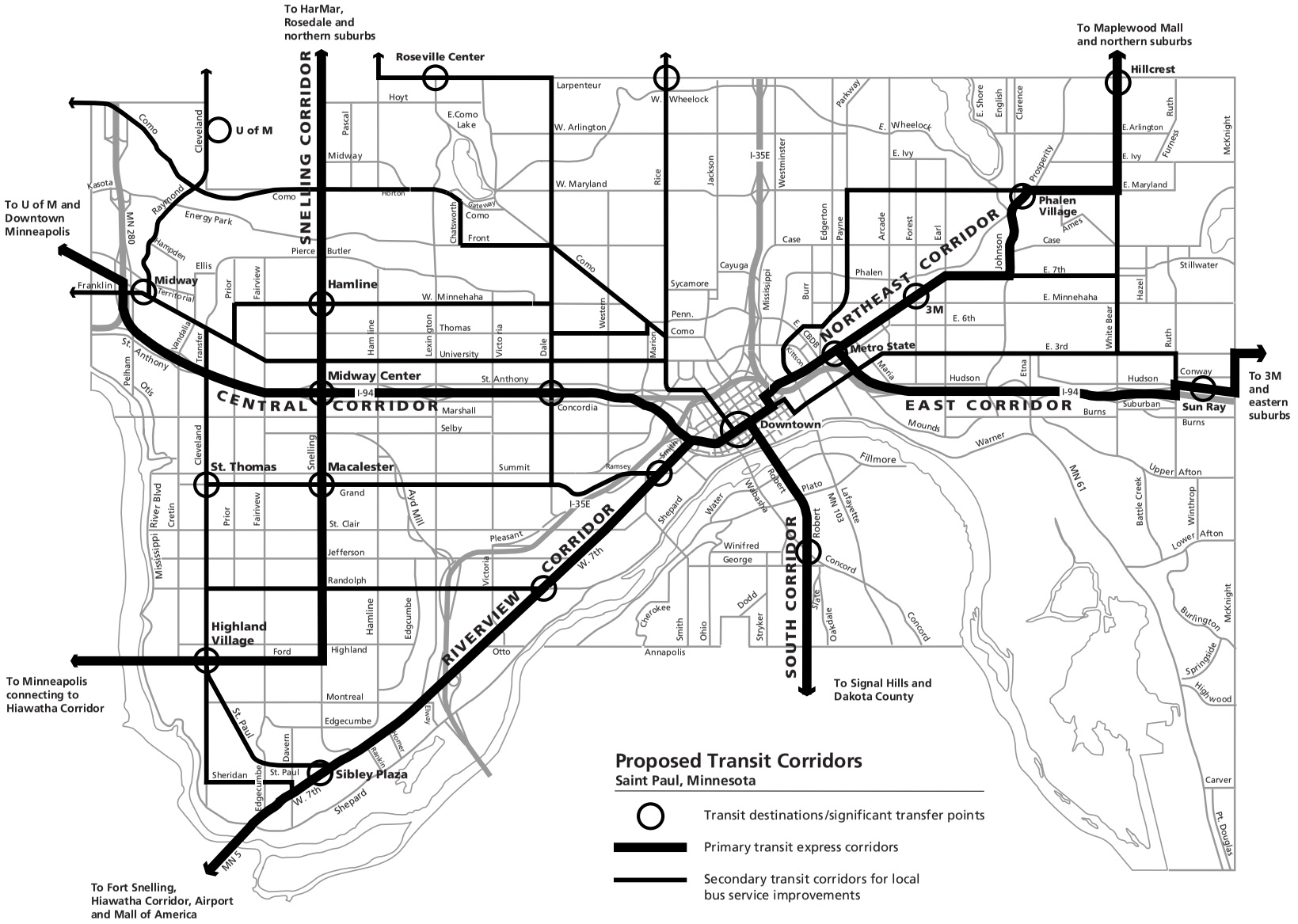
The Transit Corridor development concept calls for frequent, fast, reliable and efficient transit service, with a high level of transit amenities and transit centers, along linked corridors that have high job concentrations, population density, transit dependency, and opportunity for redevelopment.

The concept can be implemented with the existing bus system, but also can accommodate options for dedicated busways and/or light rail transit.

The Proposed Transit Corridor Map for Saint Paul identifies these six primary corridors as priorities:

- Central Corridor between downtown Saint Paul and downtown Minneapolis, serving the University of Minnesota and west Midway area (connecting to the Minneapolis Hiawatha Corridor at downtown Minneapolis)
- Snelling Corridor between the Hiawatha Corridor and Rosedale, serving the Highland Village, Macalester, Midway Center, Hamline, and Har Mar
- Riverview Corridor between downtown and MSP International Airport, serving Mall of America, and Sibley Plaza (connecting to the Hiawatha Corridor at Fort Snelling/ Airport)
- South Corridor between downtown and Dakota County, serving Robert Street, West Saint Paul and South Saint Paul
- Northeast Corridor between downtown and Maplewood Mall, serving Metro State, Phalen and Hillcrest
- East Corridor between downtown and Woodbury transit center, serving Sunray and the 3M campus

The map also identifies secondary corridors for local bus service improvements to complement the primary corridors while focusing on local service.



BIKEWAY SYSTEM DESIGN STANDARDS

The Bikeway Plan identifies on-street bike routes and off-road paths to create a city-wide system of bikeways that avoid barriers and hazardous features, with a minimum number of stop signs to facilitate uninterrupted travel. The bikeways are spaced about ½ to 1 mile apart, with local streets providing access to this city-wide system.

Striped bike lanes should be used on streets with traffic volumes greater than 5000 ADT and where speeds are more than 35 miles per hour. Striped bike lanes should also be used on streets with lower traffic volumes where there is high bicycle use, especially by casual and recreational bicyclists, and for purposes of continuity of bike lanes.

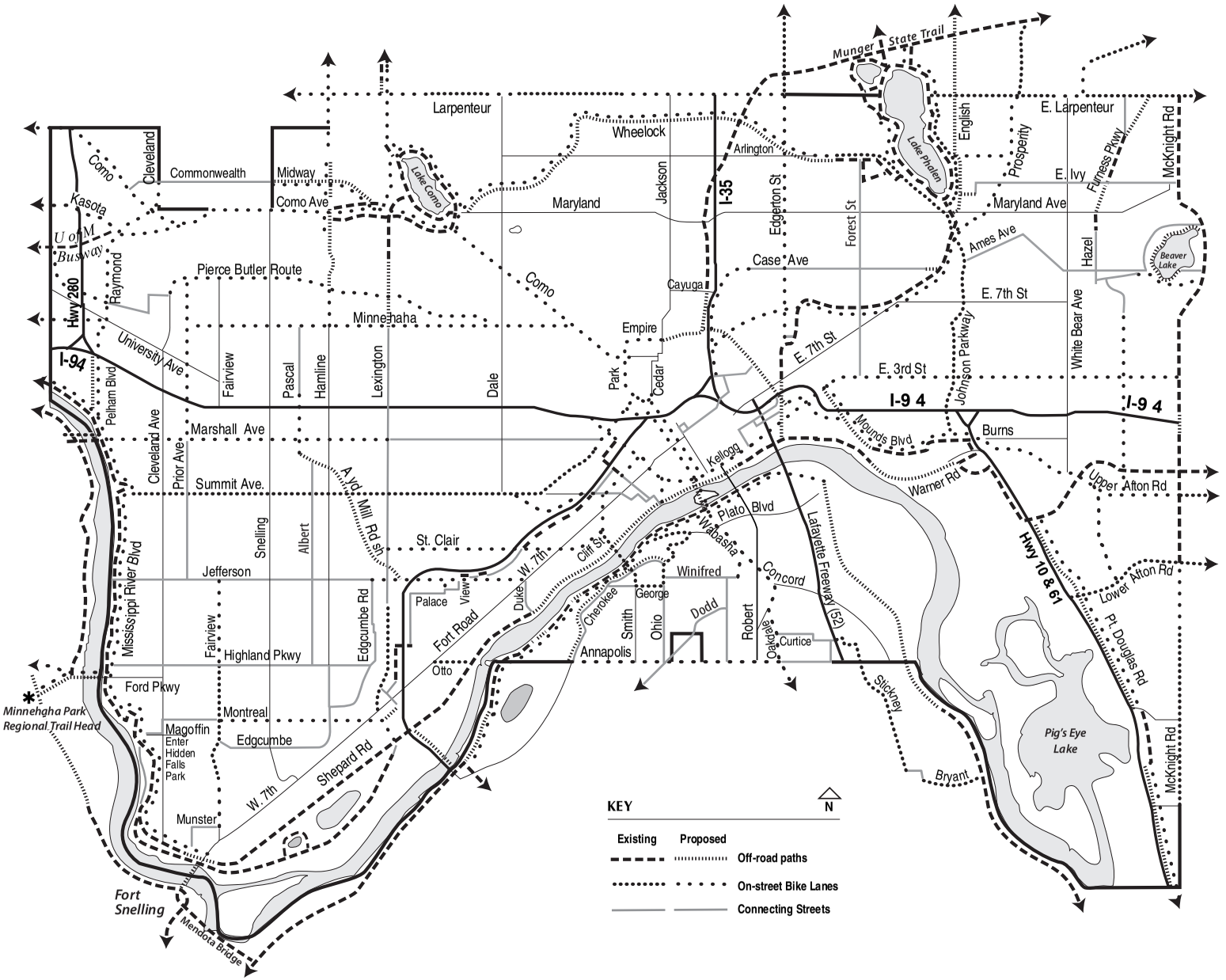
Striped bike lanes should be 6 feet wide, separated from vehicle traffic by a solid white line, and well signed. Where 6 feet is not practical due to physical or economic constraints, bike lanes may have a minimum width of 4 feet.

If parking is permitted, the bike lane should be placed between the parking area and the travel lane, and have a minimum width of 5 feet. Where both traffic volume and the demand for parking are relatively light, roadway width does not allow for separate parking and bike lanes, but travel and parking area widths meet or exceed minimum standards, and it is practically difficult to ban on-street parking entirely, striped bike lanes can still help to call attention to their preferential use by bicyclists, slow down traffic, and improve safety for bicyclists.

Off-road bike paths can provide good bicycle facilities where there are few intersecting roadways, such as along the river. Poorly designed bike paths with too many intersecting roadways can put bicyclists in a position where drivers of motor vehicles do not expect them.

Off-road paths should be paved for a smooth ride. Two-way bike paths should be 12 feet wide, striped down the middle, and signed for two-way use; a 10 foot minimum width may be acceptable where there are low bicycle volumes. Because one-way paths will often be used in selecting this type of facility; if necessary they should be 5 to 6 feet wide and designed to ensure one-way operation.

Combined bicycle-pedestrian paths generally should not be designated as bike routes because bicyclists and pedestrians do not mix well unless there are only a few of them on the facility. Shared paths tend to have built-in hazards, with curves and clearance from obstructions more for pedestrians, a significant difference in travel speed between pedestrians and most bicyclists, and the possibility of bicycle-pedestrian crashes resulting in serious injuries. Combined paths might be used to meet the needs of children and the slowest bicyclists, but separate off-road paths or on street bike lanes should be provided for most riders.



8.0 Priority Actions 1998-1999

Saint Paul's comprehensive plan, of which this *Transportation Policy Plan* is a chapter, is the key expression of the City's commitment to prudent, strategic allocation of limited public resources in service to a shared community vision for the future. But it does not stand alone. It is complemented and detailed by

- the capital improvement programming and budgeting process,
- the operational planning activities undertaken in support of the annual operating budget, as well as in individual departmental strategic plans, and
- the myriad of individual administrative actions and City Council legislative and regulatory decisions.

The relationship of these efforts as they pertain to transportation in Saint Paul is shown below.

City Processes, Instruments for Transportation Planning and Implementation

The Transportation Chapter of the Comprehensive Plan

- **Vision** expressed in goals, premises, and major strategy statements
- **Policies** to guide City decisions over the long-term
- **Physical** depiction of the system's desired look and operation
- Adopted by City Council

Transportation portions of the Program for Capital Improvements and the Capital Improvement Budget

- 10-year schedule and proposed funding, updated bi-annually
- 2-year budget, adjusted in second year
- Adopted by City Council

Public Works, PED portions of Operating Budget process; administrative strategic plans

- 1-year operating budget
- 1-year work program
- Budget adopted by City Council
- Strategic plans internal to departments

Other Mayor and City Council actions

- Legislative agenda
- Regulatory actions
- Administrative directives
- Intergovernmental activities

Integration among these public efforts is ideal; the strongest connection is between the comprehensive plan and the capital programming endeavors, with the Planning Commission making comment upon the consistency of proposed capital expenditures with the comprehensive plan.

Because the City has these well-established, effective processes for implementation, which allow for short-term flexibility while maintaining connection to long-range community vision and policy, this *Transportation Policy Plan* does not attempt to document implementation steps in detail.

Instead, the activities that will implement this Plan will continue to be detailed in the transportation-related portions of the 10-year *Program for Capital Improvements* and bi-annual capital improvement budget and in the operational planning and budgeting done annually by the City administrative departments responsible for transportation, that is, the Public Works Department and the Department of Planning and Economic Development (PED).

Presented below are the most immediate capital and operational action priorities for implementation of this Plan.

Capital Action Priorities

- Complete the design process for **Shepard Road** and begin construction in 1998.
- Complete **Phalen Boulevard** EIS process; select preferred alternative; begin design work.
- Complete **Ayd Mill Road** EIS process; select preferred alternative; begin design work.
- Complete construction of the **Wabasha Street Bridge.**
- Complete construction of the **Edgerton Street Bridge.**
- Complete construction of the **Ford Parkway Bridge.**
- Complete infrastructure planning for **Riverfront.**
- Determine Administration recommendation on location of new downtown parking facilities in or near the west core based upon the August 1996 Downtown Saint Paul Parking Study; construct **downtown parking facilities** per Administration recommendations.
- Continue **residential street paving** as scheduled; coordinate with other neighborhood improvements.
- Continue development of the **bikeway system** by incorporating bike plan-designated paths, lanes and signs with road and bridge reconstruction and intersection redesigns at the time they are programmed.
- Continue to identify and implement **street and sidewalk safety improvements** as needed.

Operational Action Priorities

- Continue **neighborhood traffic management** efforts.
- Assemble **traffic engineering/urban design principles** for internal agreement and external communication.

- Continue work with neighborhoods to identify and **resolve parking issues.**
- Develop **comprehensive sidewalk plan** in accordance with criteria found in Plan Policy 87.
- Identify and implement **operational safety improvements** as accident monitoring warrants.

Legislative/Intergovernmental Action Priorities

- Support increased **transit funding** at Legislature.
- Support **transit redesign** in concept and work to ensure service to Saint Paul.
- Forward the "limited growth option" in the **metropolitan growth options** planning debate.
- Continue to maintain and strengthen **interagency relationships** in support of City transportation objectives.
- Participate in regional transportation planning and funding processes to better ensure **funding for major projects;** lobby legislature for funding, as appropriate.

9.0 Policies by Function

The policies presented on pages 17-36 of this Plan are organized according to which of the three major planning strategies they serve. The following organizes those same policies within the traditional transportation functions of **streets and traffic, parking, transit, bicycles,** and **pedestrian ways,** as well as the related function of **land use and development.**

Streets and Traffic

6. The City should strongly promote regional development and transportation investments that support alternative modes and reduce trips, in particular, a better regional jobs/housing balance, and control of sprawl through restricted growth in transportation capacities.

11. The City should use traffic controls, enforcement, design practices, and land use policies to maintain the current function of streets, especially relative to one another, as designated and defined in the functional classification map (p. 33), specifically ensuring use of **arterials** (principal, minor A and minor B) for longest trips, **collectors** for intermediate and local trips, and **local** streets for local access.

12. The City should ensure that management of traffic, in accordance with the functional classification of streets, is done in ways that discourage increased volumes and speeds, and protect pedestrians and the neighborhood environment.

13. The City should assemble, for internal agreement and external communication, the set of traffic engineering and urban design principles that guide the design and use of the street right-of-way as determined by street classification, right-of-way availability, traffic volumes, safety standards, and land use.

14. The City will follow the new urban State Aid design standards for appropriate parts of the system which will result in most streets reconstructed to be narrowed to more appropriately accommodate pedestrians and help calm our urban traffic.

15. The City will continue to work with the State to secure State Aid rule changes to provide more flexible standards for streets with less than 3,000 average daily traffic, so that the street design may better meet the pedestrian and neighborhood needs of the urban environment.

17. The City should work with the State to minimize the negative effect on Saint Paul streets of freeway ramp metering. This should be done through the use of Intelligent Transportation Infrastructure (ITI) on freeways and existing frontage roads.

19. The City should work with State and Federal agencies to implement capital improvements to avoid or correct serious congestion, where community disruption is not a major factor, and where operational capacity improvements cannot adequately address the needs.

20. The City should complete environmental assessment of alternatives for the future of Ayd Mill Road and implement the resulting recommendations.

21. The City should work with the Minnesota Department of Transportation (MnDOT) and other agencies to maintain and expand the use of incident management systems to deal with the short-term traffic congestion that results from accidents or other single event disruptions to normal traffic flow.

23. The City should design streetscape and operations in ways that alleviate the negative impact of major streets on their surroundings, protecting pedestrian safety as the highest priority.

24. The City should continue to work closely with Ramsey County to ensure compatibility with county standards, particularly as it relates to roads over which the county will have eventual jurisdiction.

25. The City should require installation of conduit for fiber-optic and other types of communications when streets are open for reconstruction or utility work.

26. The City should use a neighborhood traffic management process to systematically address neighborhood requests to "calm" or divert traffic, while maintaining necessary access. The City should work proactively with the community to promote this process and commit planning and traffic engineering staff resources to work closely with the community throughout each neighborhood process. Community participants should include residential, service and public safety interests, with participation organized through the appropriate district planning council, and offer an array of techniques, such as, but not limited to, those illustrated on pp. 38-43 of this plan. The City should work to allocate adequate resources to this priority.

27. The City should explore a variety of traffic-calming road design options with interested neighborhoods at the time that local street construction is being planned.

28. The City should install "chokers" as standard design where streets in school zones are reconstructed. "Chokers" (also known as "bump-outs") are illustrated in the Neighborhood Traffic Management Techniques section of this Plan. (pp. 38-43).

29. The City should promote its School Safety Program, which is a systematic, community and school-based approach to slowing traffic near schools, in order to ensure the safety of children crossing streets within a school zone. The School Safety Program should offer education, enforcement, and engineering tools to calm traffic in school zones. Participants in this process should include city traffic engineering and public safety expertise, the project school's administration, the school parent group, and the appropriate district council. The array of techniques found on pages 38-43 in this plan are offered through the School Safety Program. In addition, the City should include the option of

installing a "key mechanism" at signal-controlled intersections to assist school children in safely crossing busy streets when required by a school and appropriate district council.

30. The City should continue its current adopted policy with regard to the installation of all-way stop sign controls. This policy directs that all-way signs on collector or arterial roadways must meet appropriate spacing and traffic volume requirements and have district council approval, and that all-way stop signs on local streets meet safety standards, are supported by a neighborhood petition, and have district council approval.

31. The City should increase traffic enforcement to improve public safety.

32. The City should support State legislation that will allow implementation of new enforcement technology such as photo-radar, photo-cop, and photo-redlight, in order to enhance traffic enforcement and improve safety.

33. The City should continue to review the results of State air quality monitoring in Saint Paul and work with the State and Metropolitan Council to devise strategies as needed.

34. The City should make no comprehensive changes to the truck route system, at this time, but, rather, review proposed changes to the system, with the objective of minimizing the noise and other impacts on sensitive land uses, while meeting the transport needs of business.

41. The City should complete its residential street paving program, setting neighborhood priorities based on cost effectiveness and economic and community development and public safety goals.

43. The City should continue to work with other agencies to enhance the design of transportation improvements (streets, lighting, bridges, parking facilities, transit shelters, bike paths, walkways) in accordance with community and neighborhood objectives. The City should continue its practice of using a community-inclusive design process for major transportation projects.

45. The City should ensure that fair and adequate capital, operating, and maintenance funding is a condition of approving above-standard design and materials in public improvements.

46. The City should continue to enhance its parkway system through appropriate design and landscaping, limitations on uses within and adjacent to parkways to ensure compatibility and preserve aesthetic character, limitations on traffic speeds and vehicle access, and provision of separate pedestrian and bikeways, where feasible.

47. The City should construct Phalen Boulevard as part of the industrial redevelopment of the under-utilized railroad corridor on the city's East Side.

48. The City should continue to use business development and job creation as criteria for programming capital transportation improvements.

49. The City should participate in regional planning efforts to improve Saint Paul's connection with the metropolitan road system.

50. The City should strongly promote regional transportation policies that discourage regional sprawl and subsequent disinvestment in the metropolitan core.

53. The City should ensure business and service interests are included in the neighborhood traffic management process described in Policy 26 (p. 13).

54. The City should ensure that the transport needs of business are met when reviewing change requests to the truck route map. (See Policy 34, p. 15.)

55. The City should consider vacating unnecessary streets, such as those platted and unpaved or those that create short blocks, for housing or economic development opportunities.

59. The City should make capital or operational street capacity improvements at those downtown locations where serious traffic congestion is occurring and should support freeway capacity improvements that provide capacity to alleviate congestion at the northbound ramps out of downtown.

62. The City should continue to work with the downtown community to handle the special traffic and parking demands generated by special events and downtown attractions. Interactive Transportation Information (ITI) systems like the recently-installed Advanced Parking Information System, should be explored and implemented where applicable. Availability of alternate modes of transportation, such as mass transit or taxi cabs, should be encouraged.

63. The City should seek to make downtown businesses and events more accessible to visitors by encouraging greater overall use of taxi cabs.

66. The City should incorporate the recommendations of the adopted Lowertown Small Area Plan, the recommendations of the downtown portions of the Saint Paul on the Mississippi development framework that improve the pedestrian realm, while ensuring adequate vehicular access in support of downtown development.

69. The City should make transportation investments based upon the Saint Paul on the Mississippi development framework that
    a. emphasizes pedestrian activity (at-grade and vertical),
    b. directs that roads and bridges be carefully designed in order to establish the context and set the standard for private development,
    c. provides strong connections between individual riverfront developments, and
    d. provides strong connections between the riverfront and the downtown and adjacent neighborhoods.

71. The City should develop street/sidewalk design and management strategies that, in concert with land use and development, extend the impact of the new Wabasha street bridge to create a pedestrian-oriented Wabasha corridor that ties the Capitol with the Concord/Robert commercial area. (See Development Framework — Concept Map, p. 37.)

97. The City should work with other agencies to promote conformance with the requirements of the Americans with Disabilities Act of 1990 as they pertain to transportation facilities.

100. The City should continue to implement accident reduction improvements in locations where motorist safety is at particular risk.

101. The City should monitor the development of new technologies that provide opportunities to improve safety through traffic management.

102. The City should participate in the State's "Clean Fuels Minnesota Initiative."

Parking

3. The City should work with other agencies to invest in infrastructure and system management that support transit, carpooling, biking, and walking.

36. The City should limit negative impacts on residential properties in neighborhoods with the greatest parking spillover from commercial strips by regulating land use and offering the option of residential permit parking.

39. The City should require parking lots to have a strong landscaped edge along the street, and encourage landscaping within parking lots. The City should find ways to encourage or require improvement of existing parking lots, as well as newly constructed lots. Landscape should be designed not only to be aesthetically pleasing but also in a ways that maintain a sense of public safety.

40. The City should require construction of new parking ramps to be compatible with the neighborhood.

43. The City should continue to work with other agencies to enhance the design of transportation improvements (streets, lighting, bridges, parking facilities, transit shelters, bike paths, walkways) in accordance with community and neighborhood objectives. The City should continue its practice of using a community-inclusive design process for major transportation projects.

60. The City should work to reduce the need for parking by working with the downtown community and large employers to develop specific employee incentives such as reduced-cost parking for carpool and van pool in preferential locations, direct employee incentives to use transit, and continued efforts to improve bus service and creature comforts.

61. The City should work to ensure an adequate supply of automobile parking in the downtown by
    a. increasing the parking supply where employee demand is not being met through constructing more spaces in or near the west core of downtown,
    b. ensuring parking availability to attract new tenants downtown through a parking clearinghouse/guarantee program, and
    c. working with others to market existing parking in the downtown.

62. The City should continue to work with the downtown community to handle the special traffic and parking demands generated by special events and downtown attractions. Interactive Transportation Information (ITI) systems like the recently-installed Advanced Parking Information System, should be explored and implemented where applicable. Availability of alternate modes of transportation, such as mass transit or taxi cabs, should be encouraged.

97. The City should work with other agencies to promote conformance with the requirements of the Americans with Disabilities Act of 1990 as they pertain to transportation facilities.

Transit

1. The City should work with regional transit agencies to secure transit service, especially a redesigned and adequately funded bus service, that better serves the needs of citizens in all parts of the city.

2. The City supports expansion of the Metro Transit Rideshare carpool/vanpool rider matching and preferential parking program and supports Metro Transit's Guaranteed Ride Home program for transit riders.

3. The City should work with other agencies to invest in infrastructure and system management that support transit, carpooling, biking, and walking.

6. The City should strongly promote regional development and transportation investments that support alternative modes and reduce trips, in particular, a better regional jobs/housing balance, and control of sprawl through restricted growth in transportation capacities.

7. The City should work with other public agencies and the private sector to market transit, carpooling, biking and walking, as well as flexible work hours and telecommuting.

8. The City should promote voluntary provision of TDM incentives by private employers.

9. The City should lead by example, by promoting transit, carpooling, biking and walking, and flextime and telecommuting for its own employees.

10. The City should monitor the development of new technologies that provide TDM opportunities.

16. The City should emphasize traffic system management (TSM) and TDM policies, particularly at the regional level, to protect the functional classification of streets in Saint Paul against further upgrade overall.

27. The City should continue to explore and implement useful TSM and TDM techniques in congested parts of the system, where capacity improvement is not desirable, specifically, the northwest quadrant of the city.

35. The City supports the use of smaller buses for neighborhood circulators as part of the redesign of the transit system recommended in Policy 73 (p. 24) of this Plan.

42. The City should use its land use and development regulatory powers to reinforce major transit destinations and significant transfer points as central neighborhood places, where appropriate. Likewise, when transitways — busways or LRT — are built, the City should work with planning and implementing agencies to ensure that they are designed to support human scale, social fabric and neighborhood identity.

43. The City should continue to work with other agencies to enhance the design of transportation improvements (streets, lighting, bridges, parking facilities, transit shelters, bike paths, walkways) in accordance with community and neighborhood objectives. The City should continue its practice of using a community-inclusive design process for major transportation projects.

44. The City supports customizing of neighborhood circulator buses to reflect the identity of the neighborhoods they serve.

50. The City should strongly promote regional transportation policies that discourage regional sprawl and subsequent disinvestment in the metropolitan core.

51. The City should promote regional transit investments and operations that maintain good linkages between business and labor and markets, including:
    a. focus of high-frequency, large-bus, regular route service on areas with high population and job density,
    b. support of the central corridor between downtown Saint Paul and downtown Minneapolis as the top priority for development of transitways — busways and/or LRT — in the region, and
    c. targeted reverse commuting.

56. The City should continue to work with regional transit agencies to ensure the transit system design in the downtown results in bus travel that is an efficient and user-friendly, therefore attractive, alternative to workers, shoppers, and visitors, while allowing smooth traffic flow overall.

57. The City should continue to participate in light rail transit (LRT) planning to ensure that, when it is implemented, downtown Saint Paul will be well served, with low-platform boarding, and with stations located and designed as integral parts of their surroundings.

72. The City supports a significant, long-term commitment by the State to reinvest in the regional transit system, especially in ways that more equitably serve the transit-dependent, the core service area and the eastern portion of the Twin Cities region.

73. The City supports adequate funding of both the bus system and LRT as complementary parts of a multi-modal transit system.

74. The City supports a redesign of the bus system to provide excellent service along major corridors (limited stop "spines") and better intra- and inter-neighborhood service, with continued strong focus on regular route service to the downtown, and general concen-

tration on regular-route weekday service. Recommended corridors are illustrated in the proposed Transit Corridor Map. (p. 45)

75. The City supports:
    a. focus of bus system marketing on the occasional transit rider to become regular rider,
    b. the development of corridor service delivery and marketing plans which consider, in depth, the needs of potential riders in the corridor, and
    c. development of route and system information which is easier to understand than the current information.

76. The City supports security measures at neighborhood and downtown transit hubs and attention to security on buses.

77. The City supports regional policies that ensure, first and foremost, good service for the transit-dependent. As the first priority for use of resources, new service should be focused on lowest income neighborhoods.

78. The City opposes any additional "opting out" of the regional transit system.

79. The City should promote the focus of reverse commuting services on major suburban employers and city neighborhoods with high unemployment and should work with region transit providers and other stakeholders to identify these.

80. The City supports the central corridor between downtown Saint Paul and downtown Minneapolis as the top priority for development of transitways — busways and/or LRT — in the region.

81. The City should continue to forward Saint Paul interests in economic development, support of neighborhoods, and serious improvement of the bus service in future regional transitway planning efforts in order to produce a successful metropolitan transit system.

82. The City supports employer programs that encourage transit use by their employees.

99. The City supports transit service that is accessible, convenient and affordable for persons with disabilities, as well as being cost-effective for the system.

Bicycles

3. The City should work with other agencies to invest in infrastructure and system management that support transit, carpooling, biking, and walking.

7. The City should work with other public agencies and the private sector to market transit, carpooling, biking and walking, as well as flexible work hours and telecommuting.

8. The City should promote voluntary provision of TDM incentives by private employers.

9. The City should lead by example, by promoting transit, carpooling, biking and walking, and flextime and telecommuting for its own employees.

16. The City should emphasize traffic system management (TSM) and TDM policies, particularly at the regional level, to protect the functional classification of streets in Saint Paul against further upgrade overall.

22. The City should continue to explore and implement useful TSM and TDM techniques in congested parts of the system, where capacity improvement is not desirable; specifically, the northwest quadrant of the city.

43. The City should continue to work with other agencies to enhance the design of transportation improvements (streets, lighting, bridges, parking facilities, transit shelters, bike paths, walkways) in accordance with community and neighborhood objectives. The City should continue its practice of using a community-inclusive design process for major transportation projects.

64. The City should support biking as a means of travel to the downtown by providing bike route accommodation into downtown, working with the downtown community to provide bicycle parking/storage at assorted locations, especially serving downtown parks and museums, and by encouraging employer amenities and marketing.

83. The City should develop a network of interconnected on and off-street bike routes that:
    a. provide safe and convenient access to work, schools and shopping,
    b. tie neighborhoods together,
    c. link up with bike routes in surrounding municipalities,
    d. help complete a regional bikeway system, and
    e. create linear parks with scenic vistas, historic and cultural interpretive opportunities, and connections to regional open space. (See Bikeway Plan, p. 47.)

84. The City should continue and expand its efforts to secure state and federal funding assistance for development of bicycling infrastructure.

85. The City should work with private interests to provide support infrastructure for biking, including safe storage and personal accommodations for cyclists at work places.

86. The City should work to improve education of drivers regarding bicyclists' rights, and of bicyclists (especially children) regarding their responsibilities, and to improve enforcement of the applicable laws.

87. The City should market use of the bikeway system through distribution of informational materials and promotion of bicycling events.

Pedestrian Ways

3. The City should work with other agencies to invest in infrastructure and system management that support transit, carpooling, biking, and walking.

7. The City should work with other public agencies and the private sector to market transit, carpooling, biking and walking, as well as flexible work hours and telecommuting.

8. The City should promote voluntary provision of TDM incentives by private employers.

9. The City should lead by example, by promoting transit, carpooling, biking and walking, and flextime and telecommuting for its own employees.

16. The City should emphasize traffic system management (TSM) and TDM policies, particularly at the regional level, to protect the functional classification of streets in Saint Paul against further upgrade overall.

22. The City should continue to explore and implement useful TSM and TDM techniques in congested parts of the system, where capacity improvement is not desirable; specifically, the northwest quadrant of the city.

26. The City should use a neighborhood traffic management process to systematically address neighborhood requests to "calm" or divert traffic, while maintaining necessary access. The City should work proactively with the community to promote this process and commit planning and traffic engineering staff resources to work closely with the community throughout each neighborhood process. Community participants should include residential, service and public safety interests, with participation organized through the appropriate district planning council, and offer an array of techniques, such as, but not limited to, those illustrated on pp. 38-43 of this plan. The City should work to allocate adequate resources to this priority.

27. The City should explore a variety of traffic-calming road design options with interested neighborhoods at the time that local street construction is being planned.

28. The City should install "chokers" as standard design where streets in school zones are reconstructed. "Chokers" (also known as "bump-outs") are illustrated in the Neighborhood Traffic Management Techniques section of this Plan (pp. 38-43).

29. The City should promote its School Safety Program, which is a systematic, community and school-based approach to slowing traffic near schools, in order to ensure the safety of children crossing streets within a school zone. The School Safety Program should offer education, enforcement, and engineering tools to calm traffic in school zones. Participants in this process should include city traffic engineering and public safety expertise, the project school's administration, the school parent group, and the appropriate district council. The array of techniques found on pages 38-43 in this plan are offered through the School Safety Program. In addition, the City should include the option of installing a "key mechanism" at signal-controlled intersections to assist school children in safely crossing busy streets when required by a school and appropriate district council.

30. The City should continue its current adopted policy with regard to the installation of all-way stop sign controls. This policy directs that all-way signs on collector or arterial roadways must meet appropriate spacing and traffic volume requirements and have district council approval, and that all-way stop signs on local streets meet safety standards, are supported by a neighborhood petition, and have district council approval.

38. The City should incorporate in the principles recommended in Policy 13 (p. 10), streetscape guidelines which emphasize enhancement of the neighborhood environment, particularly its pedestrian quality, in accordance with its historical development patterns and current uses, and which maintain and improve a feeling of personal safety among users.

43. The City should continue to work with other agencies to enhance the design of transportation improvements (streets, lighting, bridges, parking facilities, transit shelters, bike paths, walkways) in accordance with community and neighborhood objectives. The City should continue its practice of using a community-inclusive design process for major transportation projects.

58. The City should make the downtown a more pleasant pedestrian environment through sidewalk widening/street narrowing (where street capacity exists in excess of expected development needs), special paving materials, landscaping, and signs.

65. The City should improve pedestrian linkages between downtown and adjacent neighborhoods, the Mississippi River, and the Capitol area.

66. The City should incorporate the recommendations of the adopted Lowertown Small Area Plan, the recommendations of the downtown portions of the Saint Paul on the Mississippi development framework that improve the pedestrian realm, while ensuring adequate vehicular access in support of downtown development.

67. The City should work to ensure security, maintenance, uniform hours of operation, and uniform signage and maintenance in the skyway system. Continued development of the downtown skyway system shall be in accordance with the General Policy Statement for the Construction of the Saint Paul Skyway System. As stated in that policy, extensions to the system should be evaluated on the basis of (a) the density of new development to be served, (b) the architectural significance of the buildings to be connected, (c) the impact on views of significant natural and built features, (d) the impact on at-grade pedestrian activity and vitality, (e) the feasibility of alternative connections, and (f) the impact on system continuity; additions the system should employ the present standard exterior design.

68. The City should work with the downtown business community to develop adequate funding and operational mechanisms to ensure maintenance of streetscape improvements.

69. The City should make transportation investments based upon the Saint Paul on the Mississippi development framework that
    a. emphasizes pedestrian activity (at-grade and vertical),
    b. directs that roads and bridges be carefully designed in order to establish the context and set the standard for private development,
    c. provides strong connections between individual riverfront developments, and
    d. provides strong connections between the riverfront and the downtown and adjacent neighborhoods.

71. The City should develop street/sidewalk design and management strategies that, in concert with land use and development, extend the impact of the new Wabasha Street bridge to create a pedestrian-oriented Wabasha corridor that ties the Capitol with the Concord/Robert commercial area. (See Riverfront Development Framework — Concept Map, p. 37.)

88. The City should install new sidewalks where pedestrian safety, particularly that of children and persons with disabilities, is at risk, to provide access to popular pedestrian destinations, and, at a minimum, on one side of every street which has a functional classification above that of local.

89. The City should repair hazardous sidewalks as quickly as possible and investigate alternatives to the current repair policy (procedures and financing) in order to repair sidewalks more systematically and at a lower overall cost to taxpayers.

90. The City should not remove sidewalks unless there is a compelling reason to do so.

91. The City should, with the U of M Center for Transportation Studies, MnDOT and the Institute for Traffic Engineers, conduct a comprehensive evaluation to determine the effect of signal timing changes, for longer pedestrian crossing times, on pedestrian safety and traffic conditions, and, following City Council review, implement the recommendation resulting from this study, as appropriate.

92. The City should implement a neighborhood traffic calming program that includes education, enforcement, and engineering resources to address pedestrian safety on streets and alleys. (Also see Policy 26 and 27, pp. 13-14.)

93. The City should improve compliance with the existing sidewalk snow removal ordinance by clarifying the responsibility for its enforcement within the City government and by initiating an educational campaign/appeal to encourage voluntary compliance with the ordinance.

94. The City should use its development policies and design standards to improve the quality of the pedestrian experience throughout the city.

95. The City should continue to implement accident reduction improvements at locations where pedestrian safety is at particular risk.

96. The City should continue to install ramped sidewalk corners as part of new sidewalk construction and through a program of annual retrofit of the existing sidewalk system.

97. The City should work with other agencies to promote conformance with the requirements of the Americans with Disabilities Act of 1990 as they pertain to transportation facilities.

98. The City should complete retrofit of the downtown skyway system so that it will be fully accessible to persons with disabilities.

Land Use and Development

4. The City should guide land use development of the city in ways that reduce trips and promote use of alternative modes of travel.

5. The City should ensure that its land use controls and other regulations do not unreasonably interfere with telecommuting.

6. The City should strongly promote regional development and transportation investments that support alternative modes and reduce trips, in particular, a better regional jobs/housing balance, and control of sprawl through restricted growth in transportation capacities.

11. The City should use traffic controls, enforcement, design practices, and land use policies to maintain the current function of streets, especially relative to one another, as designated and defined in the functional classification map (p. 33), specifically ensuring use of arterials (principal, minor A and minor B) for longest trips, collectors for intermediate and local trips, and local streets for local access.

13. The City should assemble, for internal agreement and external communication, the set of traffic engineering and urban design principles that guide the design and use of the street right-of-way as determined by street classification, right-of-way availability, traffic volumes, safety standards, and land use.

18. The City should compare the trip generation potential of proposed land use changes with the ability of area streets to handle those trips and determine whether addition of street capacity or demand management techniques are the appropriate approach when existing capacity is insufficient.

23. The City should design streetscape and operations in ways that alleviate the negative impact of major streets on their surroundings, protecting pedestrian safety as the highest priority.

36. The City should limit negative impacts on residential properties in neighborhoods with the greatest parking spillover from commercial strips by regulating land use and offering the option of residential permit parking.

37. The City should work with developers to plan access points and parking facilities for business areas with sensitivity to affected residential neighborhoods.

38. The City should incorporate in the principles recommended in Policy 13 (p. 10), streetscape guidelines which emphasize enhancement of the neighborhood environment, particularly its pedestrian quality, in accordance with its historical development patterns and current uses, and which maintain and improve a feeling of personal safety among users.

52. The City should work to ensure targeting of public investment and economic development incentives around major transit destinations and significant transfer points, including LRT stations.

55. The City should consider vacating unnecessary streets, such as those platted and unpaved or those that create short blocks, for housing or economic development opportunities.

    The City should consolidate river crossings wherever possible to avoid any unecessary additional impairment of views into and within the river corridor for its Saint Paul stretch.

71. The City should develop street/sidewalk design and management strategies that, in concert with land use and development, extend the impact of the new Wabasha street bridge to create a pedestrian-oriented Wabasha corridor that ties the Capitol with the Concord/Robert commercial area. (See Development Framework — Concept Map, p. 37.)

94. The City should use its development policies and design standards to improve the quality of the pedestrian experience throughout the city.

10.0 Technical Appendix

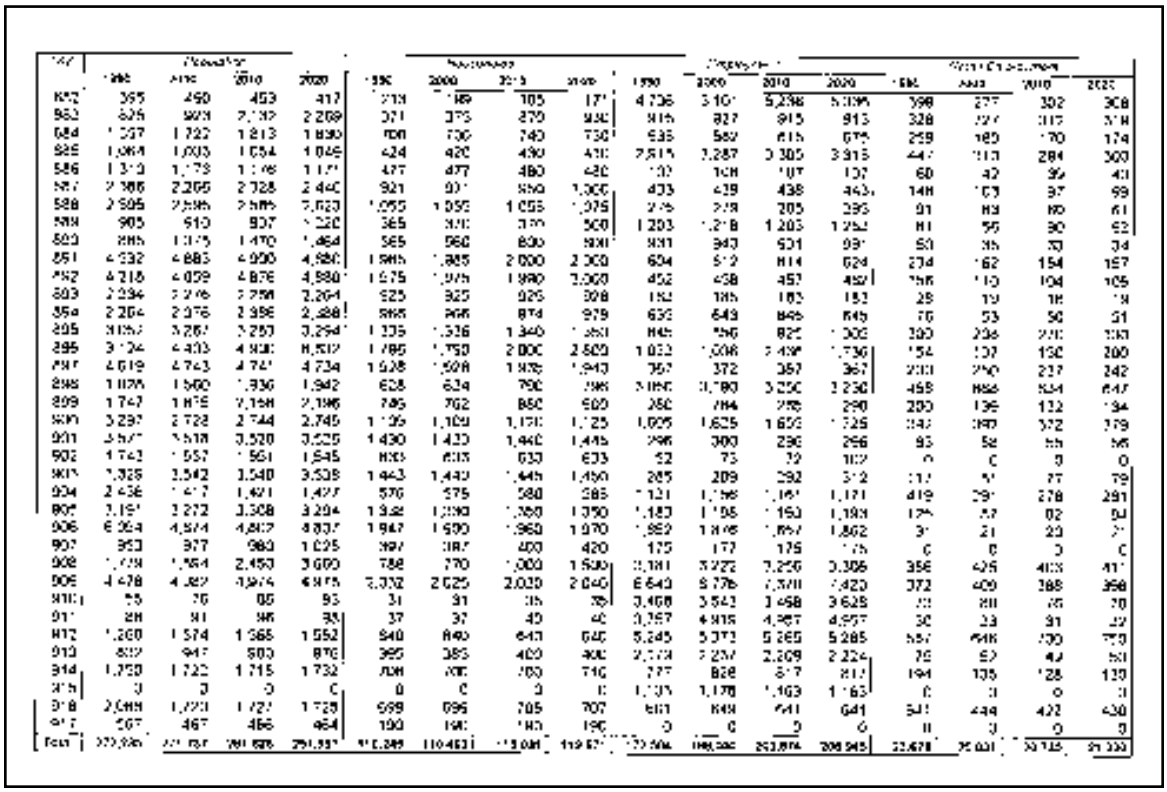
A. Traffic Assignment Zone Allocation of 2020 data: See Table A.

Table A

City of Saint Paul Growth Allocation by Traffic Assignment Zone
Update July 1999

TAZ	Population 1990	Population 2000	Population 2010	Population 2020	Households 1990	Households 2000	Households 2010	Households 2020	Employment 1990	Employment 2000	Employment 2010	Employment 2020	Retail Employment 1990	Retail Employment 2000	Retail Employment 2010	Retail Employment 2020
809	0	0	0	0	0	0	0	0	0	301	300	300	0	0	0	0
810	1,106	1,094	2,156	2,243	771	776	880	920	4,459	4,212	5,492	5,482	41	30	100	102
811	882	1,175	1,257	1,291	479	479	513	529	2,046	2,072	3,272	3,272	123	85	81	85
812	33	74	1,470	1,464	30	31	500	500	432	444	874	874	100	82	145	152
813	0	0	700	510	0	0	125	250	1,160	1,170	1,153	1,162	0	0	0	0
814	17	0	0	0	0	0	0	0	5,356	6,468	6,546	6,556	50	42	39	40
815	1,244	2,676	3,180	3,680	276	1,384	1,298	1,500	9,057	9,791	10,097	11,067	552	302	350	370
816	710	1,290	1,298	1,318	505	500	530	540	21,057	24,883	25,810	26,310	2,472	1,714	1,944	1,983
817	196	0	0	0	2	0	0	0	2,751	3,153	3,732	3,778	84	58	143	145
818	21	25	0	0	14	15	0	0	3,758	4,113	4,215	5,558	120	52	108	110
819	0	5	10	2,440	0	2	4	1,000	3,275	4,127	5,582	5,582	200	135	174	177
820	0	7	1,470	1,464	0	3	500	500	250	255	941	941	95	64	58	51
821	18	12	300	2,181	0	5	125	895	1,772	1,845	2,275	2,275	100	60	98	101
822	8,110	7,928	7,644	7,887	3,110	3,100	3,120	3,140	543	904	880	753	78	54	51	52
823	710	440	610	610	182	187	250	250	510	573	566	769	115	40	76	77
824	1,565	1,138	1,134	1,130	461	463	463	463	1,548	1,714	1,790	1,855	42	82	90	100
825	2,393	2,760	2,781	2,782	1,117	1,122	1,135	1,140	259	252	250	259	41	20	49	41
826	516	501	570	576	236	236	238	238	1,457	1,572	1,552	1,752	40	78	26	27
827	0	0	0	0	0	0	0	0	340	344	340	340	0	0	0	0
828	0	0	0	0	0	0	0	0	350	351	950	950	0	0	0	0
829	563	528	578	800	152	214	236	247	32	32	32	32	0	0	0	0
830	2,502	2,330	2,379	2,357	922	947	971	875	257	251	277	277	50	35	33	34
831	2,602	2,480	2,661	2,664	957	1,000	1,085	1,100	94	94	94	94	0	0	0	0
832	477	431	434	437	173	175	177	179	0	0	0	0	0	0	0	0
833	1,182	1,077	1,083	1,056	433	438	442	448	1,142	1,258	1,282	1,292	923	647	814	576
834	1,801	2,657	2,646	2,645	1,078	1,190	1,600	1,584	253	258	253	253	0	0	0	0
835	2,276	2,082	2,045	2,035	1,072	1,070	1,080	1,080	672	687	675	678	503	247	380	381
836	2,800	2,983	3,053	3,172	1,304	1,204	1,250	1,300	301	306	301	301	176	122	130	133
837	1,678	1,587	1,635	1,617	642	649	855	881	631	640	635	638	369	244	236	241
838	2,581	2,091	2,153	2,120	846	850	883	870	305	327	305	303	105	80	56	87
839	5,053	4,745	4,778	4,920	1,876	1,800	1,850	2,000	546	563	571	571	173	120	114	115
840	4,487	4,787	4,805	4,080	1,929	1,930	2,002	2,000	755	765	809	906	120	83	78	81
841	5,621	5,732	5,794	5,827	2,231	2,330	2,365	2,380	263	423	483	490	54	55	52	83
842	1,005	812	821	839	324	330	335	340	805	823	818	832	107	95	90	82
843	293	57	65	73	23	20	27	30	4,814	4,815	5,035	5,035	144	130	96	97
844	1,876	1,796	1,936	1,928	798	781	790	780	372	484	478	478	58	41	35	40
845	5,250	4,870	4,925	4,929	2,001	2,000	2,010	2,020	1,250	1,290	1,590	1,597	205	140	136	136
846	2,793	2,411	2,426	2,429	983	987	890	995	1,152	1,197	1,253	1,250	344	229	226	231
847	3,278	3,145	3,136	3,172	1,296	1,283	1,280	1,280	870	881	950	950	263	157	173	179
848	25	44	37	37	16	18	15	15	3,408	3,452	3,431	3,400	30	21	20	20
849	2,114	2,133	2,136	2,147	876	875	820	880	34	55	154	287	15	10	10	10
850	5,365	5,412	5,513	5,612	2,152	2,200	2,250	2,300	822	782	772	772	282	265	251	250
851	5,312	5,412	5,519	5,490	2,200	2,200	2,250	2,250	156	155	386	386	50	32	33	34
852	4,501	4,507	4,508	4,490	1,825	1,832	1,840	1,840	535	885	835	835	412	288	271	270
853	4,238	4,558	4,582	4,587	1,052	1,052	1,570	1,680	297	301	347	347	104	72	88	70
854	3,728	3,444	3,455	3,440	1,407	1,400	1,410	1,410	143	195	193	193	51	30	31	32
855	2,371	2,342	1,887	1,533	837	830	779	780	316	320	310	315	60	48	45	46
856	2,466	2,327	2,257	2,155	852	950	965	965	271	274	271	271	66	45	43	44
857	5,725	5,855	6,150	5,193	2,365	2,380	2,510	2,535	272	232	232	233	70	48	46	47
858	4,586	3,545	3,775	3,504	1,411	1,441	1,541	1,600	1,388	1,458	1,517	2,036	425	285	282	285
859	3,736	3,338	3,430	3,582	1,284	1,365	1,400	1,450	785	795	1,049	1,089	74	51	45	50
860	578	467	490	498	187	190	200	200	2,035	2,971	3,183	3,883	77	53	51	52
861	2,308	1,523	1,528	1,537	823	823	623	630	73	71	73	72	0	0	0	0
862	35	2	74	73	1	1	30	30	3,249	3,392	3,609	3,800	50	35	33	34
863	23	0	0	0	0	0	0	0	1,882	1,884	2,009	2,159	20	14	13	13
864	6,710	7,380	7,295	7,802	3,087	3,100	3,100	3,200	2,070	2,049	2,100	2,115	315	247	329	333
865	2,403	2,460	2,489	2,456	1,016	1,000	1,020	1,010	1,134	1,208	1,534	1,834	512	583	524	545
866	5,342	4,289	4,373	4,392	1,776	1,776	1,785	1,900	1,095	1,411	2,143	2,093	407	446	425	423
867	4,957	5,075	5,143	5,197	2,063	2,068	2,100	2,170	2,752	2,543	2,807	2,977	282	185	185	189
868	8,008	6,887	7,037	6,891	2,821	2,820	2,890	2,965	881	891	805	836	173	116	112	114
869	5,607	5,504	5,929	5,920	2,412	2,412	2,420	2,430	274	278	274	274	50	35	33	34
870	8,547	8,243	5,272	6,450	2,558	2,558	2,560	2,580	1,808	1,811	1,805	1,802	102	71	67	65
871	1,203	1,786	1,779	1,771	725	726	726	726	3,919	4,071	4,089	4,082	327	223	213	215
872	2,338	2,309	2,377	2,367	575	563	570	570	1,312	1,415	1,456	1,511	109	69	66	67
873	3,084	3,046	3,344	3,340	1,355	1,360	1,353	1,373	232	241	235	230	70	49	48	47
874	6,031	5,131	5,125	6,222	2,485	2,420	2,500	2,550	1,267	1,310	1,343	1,400	293	325	340	347
875	4,420	4,551	4,557	4,500	1,845	1,830	1,880	1,880	928	1,001	853	953	551	606	575	587
876	911	1,023	1,019	1,015	416	416	416	416	5,923	5,381	5,673	5,801	1,714	2,014	2,000	2,001
877	2,185	1,035	1,013	1,806	735	725	740	740	536	547	819	919	205	222	235	240
878	7,356	6,831	6,713	8,113	2,680	2,720	2,740	2,750	825	848	852	855	15	11	11	11
879	4,018	3,754	3,785	3,806	1,527	1,530	1,545	1,560	1,757	1,785	1,697	1,732	255	179	170	173
880	4,550	5,056	5,050	5,083	2,055	2,055	2,065	2,075	742	752	757	772	407	324	307	313
881	6,136	7,380	7,474	7,447	2,872	3,000	3,030	3,050	1,894	1,719	1,718	1,798	893	617	582	597

Table A continued



B. Traffic forecasts to 2020: See Figure A. and B.

Figure A

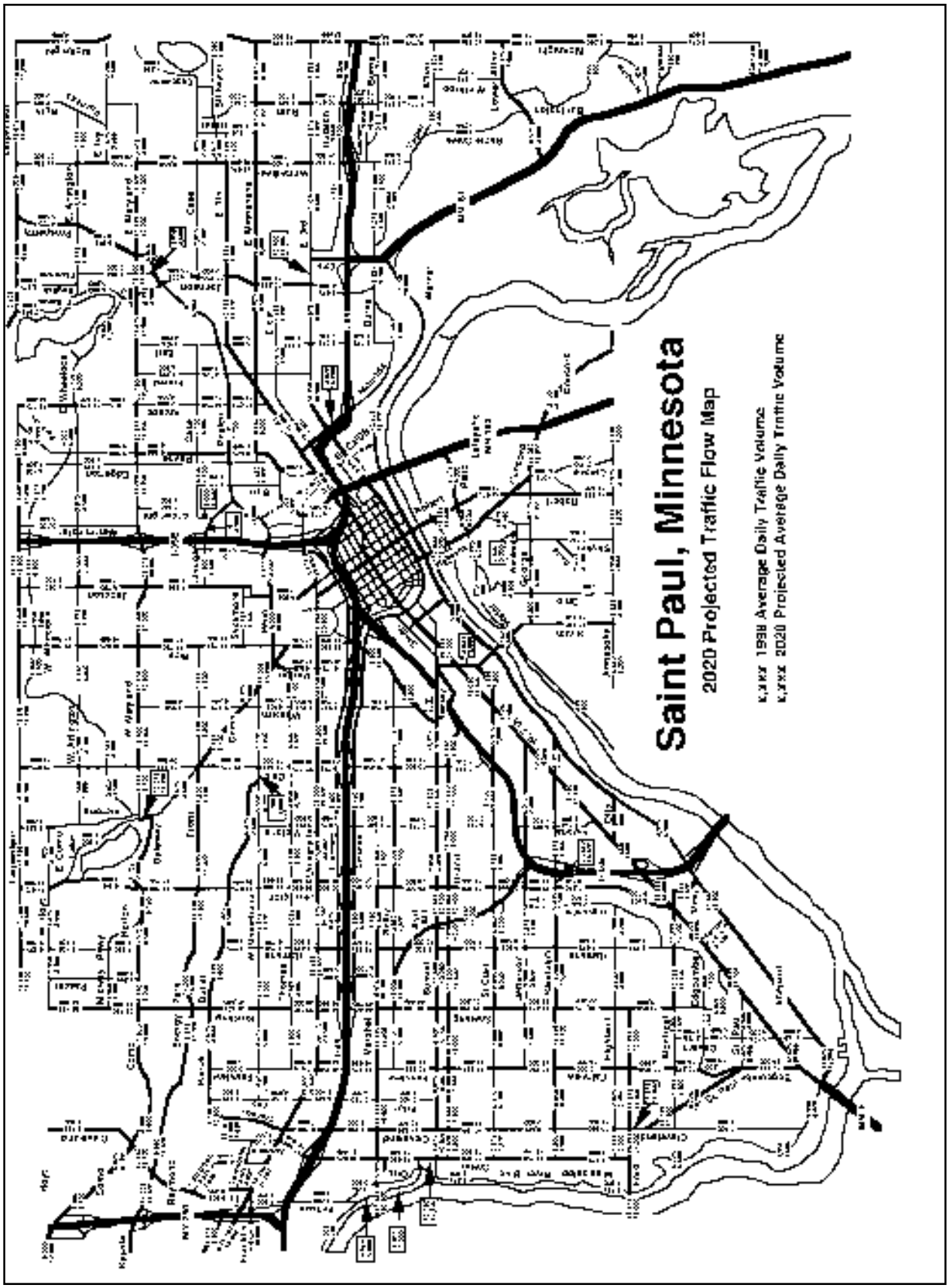
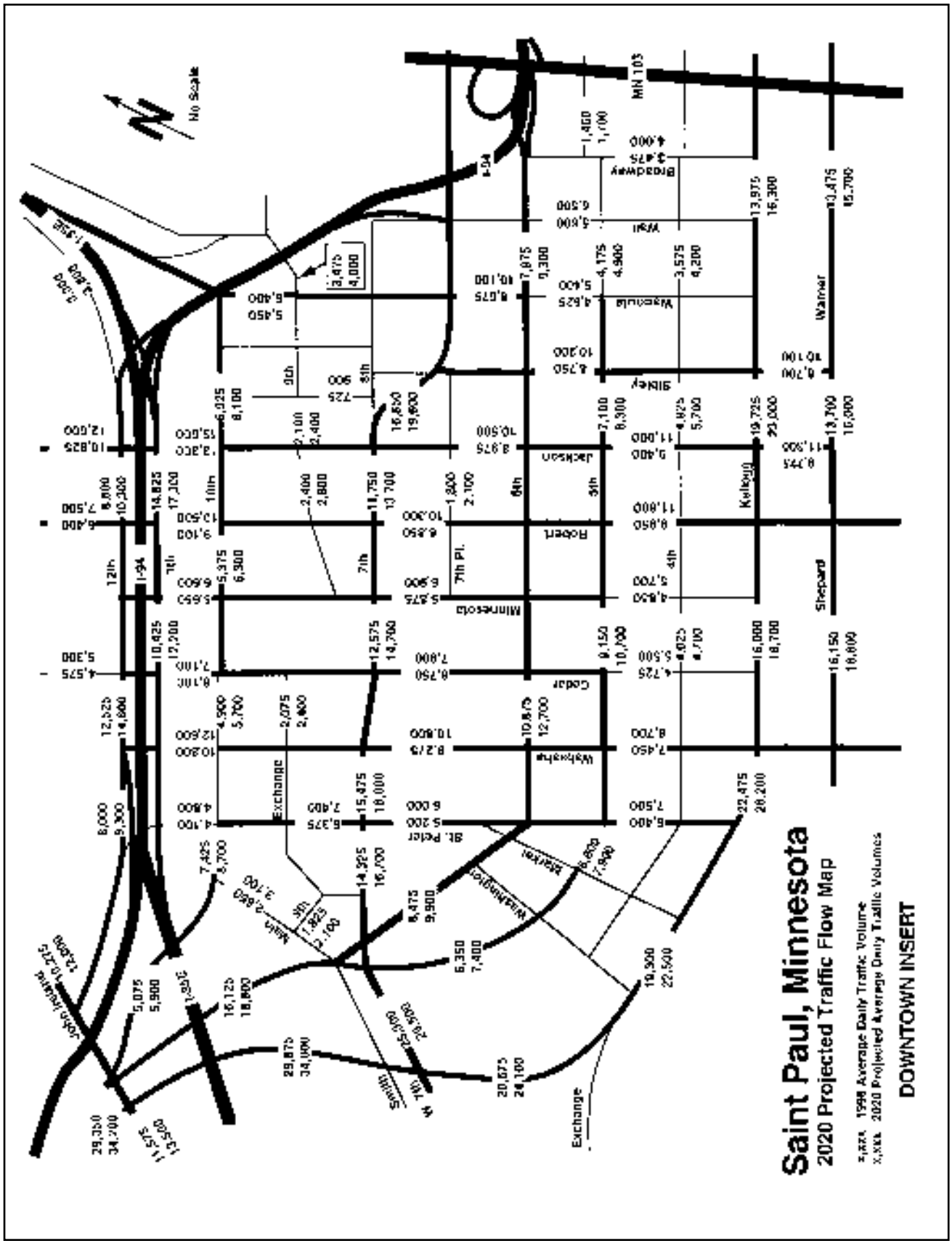


Figure B


Saint Paul, Minnesota
2020 Projected Traffic Flow Map
DOWNTOWN INSERT
X,XXX 1998 Average Daily Traffic Volume
X,XXX 2020 Projected Average Daily Traffic Volumes
No Scale
I-94
MN 103
Broadway
Wabasha
Washington
Exchange
Jackson
Robert
Minnesota
Cedar
Wacouta
Sibley
Kellogg
Shepard
Warner
7th Pl.
6th
7th
8th
9th
10th
11th
12th

C. Data showing number of lanes on the "A" minors and principal arterials: Except for Shepard Road, principal arterials are part of the state highway or federal freeway system; lane information is available from the Minnesota Department of Transportation. A table showing number of lanes by street segment for all "A" minor city streets and Shepard Road is on file at PED and at the Metropolitan Council.

D. Current traffic counts: See Figure A.

E. Analysis of existing and future traffic problems and solutions: The city works in cooperation with the State on solutions to traffic congestion occurring and projected on I-94, I-35E, Highways 61 and 280. The Policy Plan focuses on issues and strategies at the city level as follows:

1. Citywide.

Problems: The most pervasive traffic problem is the impact of excessive traffic on neighborhood quality of life. Due to growth and regionalization of traffic on an already built system of streets, Saint Paul streets operate at a higher function than originally envisioned, and at higher volumes than those for which they were designed. Combined with a deterioration in driver behavior, particularly lack of compliance with posted speed limits, traffic has become a serious neighborhood concern throughout the city. Related problems specific to certain areas are parking congestion, noise and concerns about air quality.

Solutions: The Transportation Policy Plan includes among its major objectives travel demand management in order to encourage less dependence upon the automobile, street capacity management to best use the street system we have, and neighborhood protection measures focused on traffic calming techniques to mitigate the negative impacts of traffic on quality of life.

2. Northwest quadrant of the city:

Problems: Capacity analysis conducted for the transportation policy plan identified future traffic congestion on Raymond Avenue north of University, on University between Cleveland and Raymond, on Snelling Avenue north of Summit Avenue, on Lexington north of Pierce Butler, on Victoria north of Como and on Dale between Minnehaha and Jessamine. In addition, congestion exists on I-94 and 280.

Solutions: Since the capacity analysis was completed, improvements have been made to Dale Street. Because capital solutions to correct congestion problems elsewhere in this part of the city would involve serious community disruption, the Policy Plan rather identifies TSM/TDM techniques as the most appropriate solutions for this quadrant. The

Snelling Corridor is one of the six primary transit corridors identified in the plan, recommended for frequent, fast, reliable and efficient transit service. Portions of this corridor have population densities above nine households per acre and high transit-dependent populations. It also has a number of important transit destinations. The Plan identifies Snelling north of Pierce Butler and Lexington north of Minnehaha as future bikeway path/bike lane facilities; Raymond north of University is identified for future bike lanes.

3. Northeast quadrant of the city.

Problems: The most significant traffic congestion problems include White Bear Avenue for its length, and portions of Maryland Avenue. Maryland Avenue consistently accounts for a high percentage of traffic accidents in the city. There are also congestion problems on Johnson Parkway north of E. 7th, Earl Street between E. 7th and Lawson, Arcade between Minnehaha and Case and E. 7th near Minnehaha. Capacity analysis foresees congestion along E. 3rd as well.

Solutions: The Plan does not recommend major capacity improvements to White Bear Avenue; however, the city is currently developing a White Bear Avenue corridor study/small area plan, which will be adopted as part of the comprehensive plan. Among other recommendations, some specific improvements to address traffic problems are likely to be included in the final plan. In addition, White Bear Avenue is also included as a recommended transit corridor (primary to E. Maryland and secondary to E. 3rd.)

The Transportation Policy Plan recommends the construction of Phalen Boulevard, which will be a new east-west route providing relief to Maryland, Johnson Parkway, Earl, and East 7th.

In addition to the transit corridors mentioned above, a primary East Corridor is recommended as is a secondary corridor along E. 3rd. Improving the attractiveness of transit in these corridors can help mitigate expected traffic pressures.

4. Southeast quadrant of the city, including the central business district:

Problems: The downtown is Saint Paul's major traffic generator and access, parking, and circulation are critical factors for the economic success of the downtown. The most serious traffic congestion occurs at northbound ramps out of downtown, or during periods of special events and downtown attractions. There are parking shortages in portions of the downtown.

The riverfront, while not currently a traffic problem, is poised for major redevelopment.

Solutions: The transportation policy plan includes recommendations for working with the state on alleviating congestion. It calls for

increasing parking supply where most needed, but also better management of existing parking. The key response of the plan to downtown transportation needs, however, is the promotion of transit.

Riverfront-related recommendations of the plan encourage pedestrian-scale development and transportation investments.

5. Southwest quadrant of the city.

Problems: Capacity analysis indicates Randolph and Jefferson near I-35E/Ayd Mill Road, short portions of Snelling and Hamline, and E. 7th Street approaching the river as congestion problems.

Solutions: The Ayd Mill Road study will culminate in a recommendation that will respond in part to the congestion near the southern terminus of the road. Snelling has been addressed in the discussion of the northwest quadrant. Planning for the Riverview Corridor is underway; the Transportation Plan identifies this as a major transit corridor.

F. Description of existing transit services and location of facilities.

Figure B illustrates the system of local and express service bus routes serving the city of Saint Paul. Eligible individuals with disabilities also have the option of dial-a-ride Metro Mobility service. Radial routes make up most of the service. In addition to the major downtown hub, there is a transit hub at White Bear and Larpenteur.

As is the case for the metropolitan area as a whole, there has been significant decline in ridership on Saint Paul transit routes, with Saint Paul citizens with a choice becoming more auto-dependent over the years, and citizens without a choice bearing the burden of decreased accessibility. The Access to Transit study conducted in 1993 found that the existing model of bus service best serves work trips that stay in Saint Paul, but that inter-neighborhood trips or trips to and from adjacent communities are not well served by the transit system. The study reported these limits to bus use: infrequent service, slow service, confusion about service/schedules, lack of service to desired destinations, and personal safety concerns.

Service in the northern half of the city is currently under study as part of the first Transit Sector Restructuring Study. The study concludes that making the service more productive requires a simplified system, maximized frequency where demand warrants, enhanced crosstown service, and improved connectivity.

These findings are consistent with the transit-related recommendations of the Saint Paul Transportation Policy Plan. These recommendations support redesign of the bus system to provide excellent service along major corridors and better intra- and inter-neighborhoods service. They also support a continued strong focus on regular route service to the downtown and general concentration on regular-route weekday service.

As noted, the Plan includes recommended primary and secondary transit corridors where excellent, high-frequency service should be provided. These corridors are based on high population and job concentrations, high concentrations of transit-dependent population, and high ridership. The Plan supports focus of the bus system marketing on the occasional transit rider to become a regular rider, on the development of corridor service delivery and marketing plans which consider the needs of potential riders in the corridor and development of route and system information which is easier to understand.

Both the Transportation Policy Plan and the Land Use Plan promote land use development that supports alternative travel modes. They actively encourage growth in corridors, as well as targeted public investment and economic development incentives around major transit destinations and significant transfer points.

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